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ABSTRACT

To investigate how parents currently choose their children's schools and how a federal tuition tax credit might affect their decisions, the School Finance Project conducted a national telephone interview survey of 1,223 households with children in grades K-11 in June and July 1982. Of the families interviewed, about 88 percent had children in public schools; about 12 percent had children in private schools. Following a discussion in chapter 1 of the study's methodology and survey sample characteristics (region, income, race, parental education, residence, and religion), chapter 2 presents the study's findings concerning parental choice of schooling. Chapter 3 examines parental inclinations to transfer children to a different school under a tax credit. The fourth and last chapter discusses the implications of parental preferences and the likelihood that parents would or could actually transfer their children to private schools under a tax credit. Survey findings indicate that a tuition tax credit could result in significantly higher private school enrollments in grades 1-12 with more students from minorities and less from affluent backgrounds, though private schools may be unable to absorb large enrollment increases in the short run. The study includes seven appendixes and numerous tables and figures. (JBM)

PARENTS AND SCHOOL CHOICE: A HOUSEHOLD SURVEY

School Finance Project
Working Paper
December 1983

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EXECUTIVE SUMMARY

Relatively little is known about how parents choose the schools their children will attend or about how that process might be affected if a Federal tuition tax credit were available. The School Finance Project conducted a survey of 1,200 households with children in grades K-11 in June and July, 1982, which explored both current choice of schools and potential responses to tuition tax credits. (The tuition tax credits about which parents were asked differ in several important ways from the 1983 Administration proposal. See Chapter 3.) The major findings from the household survey include:

Current Choice of Schools

- Many parents give little thought to the school their child will attend. These parents tend to be less well-educated, to have lower incomes, and to have attended only public schools as a child.
- Parents choosing to send their child to private schools tend to be better educated and more affluent, to live in cities, to be Catholic, and to have attended private schools as a child.
- Public schools tend to be selected for a variety of logistical reasons -- convenience, transportation, and assignment of the child to that particular school.
- Private schools are chosen because parents are dissatisfied with public schools or because they cannot find what they want in the public schools.
- Different types of private schools tend to be chosen for different reasons, suggesting that each type has a separate and distinct constituency. Independent schools are selected for academic reasons; non-Catholic religiously-affiliated schools are chosen because of their religious orientation, while Catholic schools are chosen for both types of reasons.
- Financial considerations are a major reason preventing public school parents from enrolling their children in private schools. On the other hand, private school parents do not perceive the cost as a major factor influencing their choice of a school.
- Dissatisfaction with the child's present school is low, particularly among private school parents.
- Many public school parents have relatively little knowledge about or contact with private schools. Such parents are less likely to consider schooling options other than the local public school to which the child is assigned.

Tuition Tax Credits

- Nearly half the public school parents in the sample had not heard of a tuition tax credit prior to the survey. Private school parents were more aware of tax credits.
- Among public school parents, there was considerable interest in taking advantage of a tuition tax credit. More than nine percent said they would be "very likely" to transfer their child to a private school if a $250 tuition tax credit (with no limit on the proportion of tuition covered) were available, and 23.5 percent indicated they would be "very" or "somewhat likely" to do so.
- At the other extreme, 55 percent said they would be "very" or "somewhat unlikely" to move their child out of the public schools even if a tax credit equal to all of tuition were available.
- The inclination to take advantage of a tax credit was greatest among two groups of public school parents -- nonwhite and lower status parents who are currently underrepresented in private schools and those with prior interest in and knowledge about private schools.
- Other factors that tended to be associated with an inclination to use a tuition tax credit were dissatisfaction with a child's current school, and citing financial considerations as a reason for choosing the present public school.
- Independent schools might increase their share of private school enrollments with a tax credit. The reasons given for choosing different types of private schools under a tuition tax credit were similar to the patterns seen for the current choice of school. Private school parents who would transfer their child due to a tax credit indicated they would choose the same type of school as the one in which child was currently enrolled.
- Higher levels of a tuition tax credit -- $500 and all tuition costs -- were of more interest to white and more affluent parents than one of $250.
- Responses to the survey items about tuition tax credits do not necessarily indicate how a parent would behave if a tax credit were available. In order to implement a preference for switching schools, at least three additional steps would be required: application, admission, and enrollment in a private school.
- Both supply and demand factors suggest that the number of children who might actually change schools as the result of a tax credit would be much smaller than the proportion of parents in the survey who expressed an inclination to transfer their child. On the supply side, private schools may be unable to absorb large increases in enrollments, particularly in the short run.

- On the demand side fewer parents would actually apply to private schools or enroll the child even if he/she were admitted. One reason this is likely is the fact that less informed parents, those who had not heard of a tuition tax credit before, were more inclined to take advantage of a credit. Such parents might be less apt to implement their survey responses than those who were better informed.
- However, even if the pool of potential new applicants to private schools might be considerably smaller than is indicated by the survey responses, it appears that pool would include higher proportions of minority and less affluent children than are now found in private schools.

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ACKNOWLEDGEMENTS

This report reflects the collective efforts and energies of many individuals. In particular various members of the School Finance Project worked to produce this survey report. Will Myers was the Director of the School Finance Project when this study project was commissioned. He offered thoughtful comments and suggestions in the research design phase. Joel Sherman then assumed leadership for the Project and it was under his guidance that the research and analysis were conducted. Other Project staff whose efforts should be acknowledged include Diane Carthens and Jean Willis for their assistance in typing the report and other survey-related materials.

The Bureau of Social Science Research had primary responsibility for data collection and preparation of the survey data for analysis. The quality of their work was outstanding and we wish to thank all the interviewers, coders, project leaders, and other BSSR staff who were involved with the survey. Richard White of BSSR offered valuable advice during the research design phase and was very helpful in reviewing drafts of the survey report.

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Chapter 1

INTRODUCTION

This report presents an analysis of data from a household telephone survey of parental choice in education. It contains information about how and why parents choose schools for their children and how choice patterns might change if Federal tuition tax credits were available for children attending private schools. This survey project was designed to gain insight into the relevant factors which influence selection of a child's current school and how a tuition tax credit might alter the factors influencing choice and future schooling decisions.

Background of the Survey

The Education Amendments of 1978 (Section 1203 of P.L. 95-561) mandated studies of the financing of public and private elementary and secondary education. With regard to private schools, Section 1203(e)(10) called for:

> "an analysis of current and future Federal assistance for non-public elementary and secondary education including the extent of non-public participation in Federal programs, trends in enrollments and costs in private education, the impact of private schools on public school enrollments and financial support and an examination of alternative Federal policies for support of private education...."

Futhermore, the conference report (U.S. Congress, 1978) which accompanied the legislation contained additional specifications of analyses to be conducted with regard to financing private education. These included:

> "an assessment of the advisability of general Federal aid to public and non-public elementary and secondary education... including the desirability, feasibility, cost and acceptability of tuition tax credits among other general education funding devices."

The School Finance Project was established in the U.S. Department of Education to carry out the Congressional mandate. A Study Plan (U.S. Department of Education, 1980) was developed outlining the research that would be undertaken, including a "Household Survey of Attitudes toward Public and Private Schools." The Study Plan stated:

> "The household survey is designed to assess parental attitudes toward public and private schools and to assess the impact of a range of Federal options, including tuition tax credits, on parental choice of schooling (pp. 39-40)."

Choice of Methodology

In order to address the issues about private schools specified in the legislation, information was required on a number of topics including why parents choose a public or private school for their child; what motivates them to change school placements; how

parents would respond to a tuition tax credit; and how that response would vary depending on the nature of the credit. Two main reasons led to the choice of a national household survey as the means of gathering information on these topics. The first involved the weaknesses in previous studies. The limited number of empirical studies of school choice have generally been conducted only within a single school district or metropolitan area (E.H. White and Company, 1982). The studies examining the effects of a Federal tuition tax credit have typically been based on current levels and characteristics of private school enrollments. (See Jacobs, 1980; Congressional Budget Office, n.d.,; and Augenblick and McGuire, 1982.) They have not addressed the issue of how enrollments might change as a result of a credit or have assumed that such change would be minimal and therefore could be ignored.

Second, a survey was considered to be an appropriate methodology for gathering information about both current school choice and possible responses to a tuition tax credit. A survey offered the possibility of ascertaining not only who chooses public and private schools and who would respond to a tuition tax credit, but why these choices are made. Furthermore, since factors affecting present schooling decisions are also likely to influence a family's response to a tuition tax credit, much could be gained by combining the two topics into a single survey.

An alternative approach that could have been used to examine how parents might react to a Federal tuition tax credit was econometric modeling of school choice based on existing behavior patterns. Two studies have used cross-sectional data to estimate responses to tuition tax credits (Gemello and Osman, 1981; Noell and Myers, 1982). (These will be discussed at length in Chapter 4.) However, this approach has several disadvantages. First, information can only be obtained about who might transfer their child in response to a tuition tax credit, but not why they would do so. Second, cross-sectional data, i.e., data based on one point in time, are a poor basis on which to make inferences about changes in behavior, particularly under conditions which are different from those that existed at the time the cross-sectional data were collected (Campbell and Stanley, 1966). In the case of tuition tax credits, using data about existing choices to make predictions about responses to a credit amounts to assuming that a credit would not change the nature of the schooling decision or the relative propensities of different types of families to choose private schools. These, however, are important research questions that should be investigated rather than assumed as given.

It should be noted here that the survey methodology also has certain limitations. The primary limitation, discussed at length in Chapter 4, is that responses to survey questions are expressions of preferences or inclinations, which might or might not be

translated into actual behavior. This is a particularly important concern in estimating the magnitude of possible response to a tuition tax credit. However, this is a problem shared by all surveys directed at future behavior, e.g., market research or political polls, and can be taken into account in the design of the survey and the analysis of the results. Since neither the survey methodology nor an econometric model were without their limitations, and the survey approach has several distinct advantages, a national household survey was used to examine issues related to a tuition tax credit.

Design of the Survey

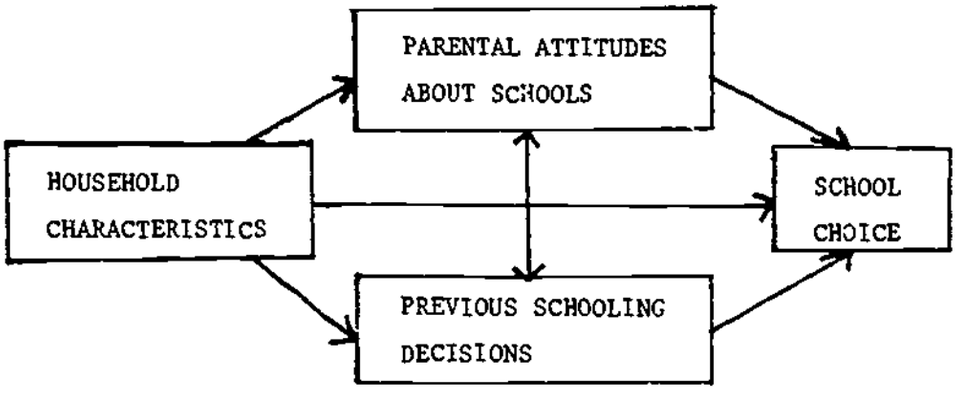
The purpose of the survey was to gather information about two topics, parental decisions about schooling at the present time and possible responses to a Federal tuition tax credit. It was decided to use telephone interviews for reasons of economy and efficiency, and the discussion of the survey methodology is contained in the next section. The general research questions which guided the design of the interview schedule were the following:

1. What factors affect parental decisions about the school their child will attend? How do cost factors figure in the schooling decision?
2. How burdensome are tuition costs for the parents of children enrolled in private schools?
3. How aware are parents of alternative schooling options for their children? What factors discourage selection of the schooling alternatives which are not chosen?
4. Would tuition tax credits act as an incentive for parents to send their children to private schools? Would the magnitude of a credit affect parental choice?
5. What changes in parental choice might occur as a result of the availability of a tuition tax credit?

The interview schedule was developed by the staff of the School Finance Project in consultation with experts on survey research, private schools, and Federal education policy, and officials in the U.S. Department of Education. Previous research about schooling choices suggested that three types of factors were likely to affect schooling decisions in the present and responses to a tax credit: household characteristics, previous schooling decisions, and parental attitudes about schools. The model of parental choice that guided the design of the research and the analysis is depicted in Figure 1-1. All three groups of independent variables are expected to influence the choice of a school, with the household characteristics influencing the other two sets of independent variables. This model also is applicable to the analysis of responses to a tuition tax credit, with the current choice of school as one component of "previous schooling

Figure 1-1

General Model of Parental Choice of School



decisions." The specific variables and questions chosen to represent each set of factors are indicated in the chapters presenting the results in each area. (Where possible, items from previous surveys were utilized.) The major dependent variable in the analysis of both current choice and response to tuition tax credits is defined in terms of type of school chosen, i.e., public or private, or public, Catholic, other religious, or independent.

The staff of the School Finance Project developed a preliminary version of the interview schedule, which was submitted for review to individuals both within and outside the U.S. Department of Education. Revisions were made in the instrument in light of the comments from reviewers and then the instrument was pretested. The major changes made in the schedule as a result of the pretesting were elimination of some items in order to reduce the length of the interview and increased use of filter questions to determine which questions a particular parent would answer. A second round of pretesting was conducted and then the instrument and its documentation were submitted for clearance by the Federal Education Data Acquisition Council (FEDAC), which was obtained in May, 1982.

Survey Methodology

The telephone interview was chosen as the data collection method after an extensive investigation of the costs and potential benefits of alternative research designs, e.g., mailed questionnaires and personal interviews. Low cost and rapid completion of the survey with relatively high response rates are the major advantages of the telephone interview. The major disadvantage is, of course, that households without telephones are not included in the sampling frame. This may result in an underrepresentation of lower income households, which are least likely to have telephones.

The Bureau of Social Science Research (BSSR) in Washington, D.C. was selected to conduct the data collection for the survey, based on their previous experience in conducting telephone surveys. BSSR's responsibilities included training the interviewers, conducting the interviews, coding and editing the interview responses, and providing the School Finance Project with a data tape and documentation. The survey results were then analyzed by the School Finance Project staff, utilizing computer facilities of the National Institutes of Health and the Statistical Package for the Social Sciences -- SPSS (Nie, Hall, Jenkins, Steinbrenner, and Bent, 1975).

A national sample of 1,223 households with children in grades K-11 in the 1981-1982 school year was surveyed. High school seniors were excluded because the questions about responses to a tuition tax credit were future-oriented. Most interviews were approximately 15 minutes in length and were conducted on evenings or weekends. In

each household one parent or guardian responded to questions for up to two of their children living with them and information was obtained for 1,854 children. The individual child was the basic unit of analysis, but to retain a random probability sample (where all children would have an equal likelihood of being selected) weights were applied to adjust for the number of children in the household and the number of telephone lines coming into the home. The weighted number of children was 2,009, of whom approximately 12 percent attended private schools in 1981-1982. (For an explanation of the weighting procedures see Appendix A.) Interviews were conducted during June and July of 1982.

The national sample of households was generated through a clustering technique called the Waksberg method of random-digit-telephone dialing. This method is described in Appendix B. Generally, the technique involves two stages: first, selecting primary sampling units (the clusters), and second, drawing the sample by random selection without stratification from within the clusters. Random-digit-telephone dialing gives every household with access to a telephone an equal chance of being selected in the sample.

Parents were asked about schooling decisions related to one of their children at a time. In order to keep interview time per respondent to a minimum, the questions were limited to two children in the family. A random selection procedure was used to select the children to be the focus of the interview (see Appendix C). Where there were three or more children in grades K-11, priority was given to selecting children in private schools to ensure the sample size of private school children would be adequate.

Questions in the interview were generally closed-ended, with respondents' answers limited to a few fixed alternatives. (The interview schedule can be obtained on request.) A few open-ended questions were included in the survey, in instances where possible alternative replies were unknown, or to permit a more extensive exploration of the salient factors and motivations underlying schooling choices for children.

The series of questions asked of parents about a child currently in public schools was slightly different from those for a private school child. Interviewers were instructed to skip questions which did not apply to the particular child or respondent and continue with the questions that did apply.

The next section describes the characteristics of the weighted sample and compares them with national estimates derived from a Bureau of the Census survey in October 1979 (Bureau of the Census, 1982). The issue is the representativeness of the sample, i.e., how closely the sample resembles the national population. It should be noted that the sampling frame used in the household survey is slightly different from that used for the Census survey. The Census estimates include grades K-12 as well as Alaska

and Hawaii, whereas the survey covered children in grades K-11 in the continental U.S. Another point of difference is the time period for the Census data, October 1979, and the household survey, June-July 1982 (the school year 1981-1982). Since the survey sample was small, a certain amount of variation between survey distributions and independent national estimates could be expected.

Characteristics of the Survey Sample

About 88 percent of the sample children were enrolled in elementary or secondary public schools. Private school enrollments made up 12 percent of the sample with the majority of private school students enrolled in Catholic schools. Comparison of sample data with Census national estimates indicates that private school children may have been slightly overrepresented in the sample. This is largely a result of the child selection procedure, described in Appendix C, which was designed to maximize the size of the private school sample. (At one point, some consideration was given to deliberately oversampling private school households in order to increase the number of such households in the sample, but this sampling strategy was rejected because it would have involved either a very large increase in cost or a large reduction in the total size of the sample.)

About 86 percent of the households indicated that all their children currently in elementary or secondary schools went to public schools, while 12 percent had all their children in private schools. Only about 2 percent had children enrolled in both public and private schools. Approximately two-thirds of the sample children in public and private schools were in elementary school (grades 1-8) and about one-fourth were in high school (grades 9-11). The proportion of kindergarten students enrolled in private schools was twice that for elementary and high school.

Region

The sample was drawn from the continental United States and interviews were completed by households in 36 States (Appendix D). Considerably more children came from the South (42 percent) than any other region. Compared to the Census' national estimates, the survey appears to have overrepresented the South and underrepresented the Northeast region (Table 1-1). This was particularly true for private school children, who were underrepresented in the Northeast and overrepresented in the South. As a result, the proportion of private school students showed little variation among the regions, whereas both Census and National Center for Education Statistics (NCES) data indicate private school attendance is higher in the Northeast and North Central regions than in the South and West.

Table 1-1

Comparison of Regional Distribution of Sample Children and Primary Sampling Units with Census Estimates

Region	Survey Sample of Children in Grades K-11 June-July, 1982 (N = 1991)	Census Estimate of Children in Grades K-12 October, 1979 (N=46,006,000)	Primary Sampling Units in Household Survey (N = 111)
Northeast	11.6%	22.3%	20.7%
North Central	29.4	26.1	23.4
South	42.1	33.9	37.8
West	16.9	17.7	18.0

Note: See Appendix D for a listing of the States in each region.

Source: (Column 2) Bureau of the Census, Private School Enrollment, Tuition, and Enrollment Trends: October 1979, Current Population Reports, Series P-23, No. 121 (Washington, D.C.: U.S. Government Printing Office, 1982), pp. 20 and 29.

Table 1-2

Comparison of Survey Distribution of Family Incomes of Students with Other Estimates

Family Income	Survey Sample of Children, K-11 June-July, 1982 (N = 1895)	Census National Estimate, K-12 October, 1979 (N=41,959,000)	U.S. Department of Treasury Estimate, Children 5-17 1981
Under $15,000	26.7%	43.3%	29.2%
$15,000-$24,999	26.4	32.9	63.7
$25,000-$49,999	38.9	20.0	
$50,000 and above	8.0	3.7	7.1

Sources: (Column 2) Bureau of the Census, Private School Enrollment, Tuition, and Enrollment Trends: October 1979, Current Population Reports, Series P-23, No. 121 (Washington, D.C.: U.S. Government Printing Office, 1982), pp. 21 and 30; (Column 3) Computer printout, U.S. Department of the Treasury, 1982.

The factors contributing to the discrepancy in terms of regional distribution were primarily associated with the second stage of the sampling process. The regional distribution of the primary sampling units (PSUs), the first stage sampling unit, was much closer to the Census distribution of children than was the actual sample of children. (However, the South was still slightly overrepresented among the PSUs and the Northeast slightly underrepresented.) In terms of the number of interviews obtained within PSUs, ones with high numbers of completed interviews (over 15) were more prevalent in the South. Low completions (under 10 interviews obtained in the PSU) were most frequent in the Northeast.

In the Northeast, the low completion rate was mainly a result of a high incidence of non-working telephone numbers and ineligible households and secondly, the result of a high number of "refusals" and no answers. The high completion rate in the South, which resulted in oversampling of that region, was due to the low incidence of business and non-working telephone lines and, to a lesser extent, the low incidence of ineligible households and no answers. The North Central region, on the other hand, had a lower representation of PSUs but a higher proportion of the sample because of high completion rates in the region's PSUs.

Income

The income data in the survey were derived from a single question involving broad income intervals (i.e., less than $7,500, $7,500 to $14,999, etc). Previous research has indicated that broad income intervals usually reduce the rate of non-reporting of income. Approximately six percent of all respondents chose not to report their family income. Slightly less than half of the sample children came from families with annual incomes over $25,000 (Table 1-2). This was twice the proportion of higher income families estimated by the Census Bureau (Table 1-2). While lower income families appear to have been undersampled when compared with Census data, independent estimates of income distributions developed by the U.S. Department of Treasury for 1981 are similar to the sample data. Typically the October Current Population Survey understates income compared to other sources of income estimates (Bureau of Census, 1979). In addition, the difference in years may account for some of the variation between sample and Census income data.

Race

Respondents were asked about their racial backgrounds and children were assigned the same race as the parent answering the survey. Three-quarters of the children in the sample were white (Table 1-3). The racial categories utilized in the survey were mutually exclusive and for this reason the results cannot be compared with Census data

Table 1-3

Racial Backgrounds of Students

Race	Survey Sample, K-11 June-July, 1982		Public School Students, Fall 1980
	Total Sample (N=2001)	Public School (N=1758)	(N=39,832,482)
White	76.1%	75.2%	73.3%
Black	14.9	15.2	16.1
Hispanic	7.0	7.5	8.0
Other	2.0	2.1	2.7

Source: (Column 3) National Center for Education Statistics, Digest of Education Statistics 1982 (Washington, D.C.: U.S. Government Printing Office, 1982), p. 43.

Table 1-4

Educational Background of Parents of Elementary and Secondary Students

Educational Attainment	Survey Sample of Children, K-11 June-July, 1982 (N = 1987)	Census National Estimate of Children in Grades K-12, October 1979 (N = 44,515,000)
Less than high school graduate	17.2%	29.2%
High school graduate	43.3	37.5
Some college or college graduate	31.0	24.3
Post-graduate work	8.4	9.0

Source: (Column 2) U.S. Bureau of the Census, Private School Enrollment, Tuition, and Enrollment Trends: October 1979, Current Population Reports, Series P-23, No. 121 (Washington, D.C.: U.S. Government Printing Office; 1982), pp. 21 and 30.

on race. Census treats Spanish origin as an ethnic category, so that individuals are classified as being of Spanish origin and either black or white in terms of race. However, the distribution of public school children by race in the sample is very similar to that gathered by the Office of Civil Rights, U.S. Department of Education (Table 1-3).

Parental Education

Parents were asked about their own educational background -- both educational attainment and the type of elementary and secondary schools attended. The largest group of children were those with parents who were high school graduates (Table 1-4). In comparison with Census data about parental levels of education, in the survey a lower proportion reported having less than a high school education and more had attended college (Table 1-4).

The parents of most children in the sample (78 percent) had attended only public schools. Parents who had attended both public and private schools in their educational career accounted for about 13 percent of the children and about 9 percent had parents who had attended only private schools. Parents who attended private schools were more likely than those who attended only public schools to have some post-secondary education and to be Catholic.

Residence

Respondents were asked to describe the place in which they lived as a large city (more than 250,000 people), a suburb near a large city, a medium-sized city (50,000 to 250,000), a small city or town (under 50,000) or a farm/open country. The survey categories are not comparable to those used in Census data, where an individual's place of residence is classified based on his or her actual location relative to Standard Metropolitan Statistical Areas (SMSAs). Small cities and towns accounted for the highest proportion of children, and the next largest categories were large and medium-sized cities (Table 1-5).

Family incomes and racial backgrounds of students varied systematically by place of residence. Whites were most likely to live in small cities and towns. Blacks tended to live in large cities, and Hispanics in large or medium-sized cities, with both blacks and Hispanics underrepresented in suburbs and outside metropolitan areas. The suburbs had higher proportions of children from high-income families than other places, and large cities had the highest proportion of children from lower-income families.

Religion

Children of Protestant respondents made up about 56 percent of the sample, Catholics 28 percent, other religions 10 percent, and 5 percent had parents who did not specify a religious preference. Current national data on the religious background of school-age children are not available.

Table 1-5

Place of Residence and Racial Background of Sample Students

Place of Residence	Total Sample (N=2003)	Whites (N=1519)	Blacks (N=294)	Hispanics (N=140)
Large city (over 250,000)	21.6%	13.1%	55.7%	42.0%
Suburb of large city	17.5	17.4	7.6	7.8
Medium-sized city (50-250,000)	21.1	19.9	19.0	39.2
Small city or town (under 50,000)	29.3	33.5	17.0	10.9
Farm or open country	12.5	16.2	0.7	0.0

Representativeness of the Survey Data

The distribution of sample children differs from Census estimates for the nation in terms of region, income and education. Weighting sample data to approximate the Census estimates was considered as a method of post-stratification, but was rejected, in part because the differences were not great and in part because the accuracy of the Census data concerning income and private school data is uncertain. Instead, a simple probability sample was retained, with regional, educational and income strata unadjusted. (For the same reasons, survey data were not used to calculate national estimates.) Therefore, care should be exercised in the interpretation of analyses involving these three variables. Additional discussion of sampling and nonsampling variability can be found in Appendix E.

Survey Analysis

All respondents in the sample were asked to respond to a structured survey instrument focused on two areas of inquiry:

1. Current Choice of Schooling. These questions asked whether a conscious decision on schooling was made, what specific factors were considered in choosing a school, if the respondent had ever considered other types of schooling for the child, and about satisfaction with the current school.
2. Possible Response to a Tuition Tax Credit. These questions focused on possible decisions to switch the child from the school he/she currently attended to another school if a tuition tax credit were available. Respondents were asked about their possible changes in school placement if there were a tax credit of $250, $500, and 100 percent of tuition costs. For those respondents who did indicate an inclination to transfer their child, questions were asked about the factors that would influence their choice of a new school and what type of new school they would select.

Chapter 2 presents the study's findings concerning parental choice of schooling. Chapter 3 examines the inclinations of parents to transfer their child to a different school under a tax credit. Chapter 4 discusses the possible implications of those preferences as well as the other findings of the survey. The probability that parents would or could implement their preference to switch under a tax credit is discussed and taken into account in a variety of ways.

Chapter 2

CURRENT SCHOOLING CHOICES

The literature on factors affecting parental decisions about schools for their children is quite limited. The School Finance Project commissioned a literature review on this topic, which concluded that it is difficult to generalize from the available studies since they do not tend to be comprehensive or to assess the relative strength of different factors, and are often restricted to a particular context (E.H. White and Company, 1982).

Several studies dealing with school choices found that a substantial minority of parents give little thought to the school their child will attend and simply opt for the public school closest to their home (Cogan, 1979; Nault and Uchitelle, 1982; Johnson, 1975; Bridge and Blackman, 1978; Kamin and Erickson, 1981). Moreover, such parents tend to be less well-educated and less well-informed about the schools than those who give more attention to the question of school choice (Nault and Uchitelle, 1975; Cogan, 1979; Bridge and Blackman, 1978; Kamin and Erickson, 1981). They also tend to have public school backgrounds (Kamin and Erickson, 1981). One study of residential preferences of households at different life-cycle stages found the quality of the schools to be the second most important factor that families with school-age or pre-school children said would affect their choice of a new residence (McAuley and Nuth, 1979).

Several researchers have examined the factors associated with school choice and the transfer from one type of school to another. Sonnefield (1973) suggested four types of criteria that families may use in evaluating schools -- location, the school program, the school environment, and financial considerations. E.H. White and Company (1982) concluded that "distance...is the most significant single variable affecting choice" (p. 47), as did Bridge and Blackman (1978) with regard to the Alum Rock experiment. Cogan (1979) also found location to be the most important factor for parents making "passive choices" about schools.

The transfer of a child to a different school from the current placement is affected by a variety of factors, but parental dissatisfaction with the public schools is one of the most important reasons for transfers from public to private schools (Edwards and Richardson, 1981; Gratiot, 1979). Furthermore, the reasons for switching from public to private schools are generally different from those associated with the reverse switch. Frechtling and Frankel's (1982) survey of parents in Montgomery County, Maryland found that the major reasons given for switches into public schools from private schools were convenience and cost. In contrast, religion and educational program were cited as the

major reasons for switching to private schools, while discipline, child-related factors, and school staff were identified as secondary reasons for transfers from public to private schools.

Research indicates that transfers to private schools occur most often at normal transition points in school attendance. The Montgomery County study (Edwards and Richardson, 1981) found changes in school placement were most frequent for children entering grades 1, 7, and 9, particularly grade 1.

Kamin and Erickson (1981) examined reasons for choosing public schools and different kinds of private schools. They found that public school parents mentioned convenience more than any other as a reason for choice. Religion was mentioned frequently for Catholic and other religious schools, especially the latter. On the other hand, discipline and academic factors were important for independent and Catholic schools. Based on these results, they concluded that private schools might be more heterogeneous than public schools.

The demographic profile of private school children was discussed in Volume 2 of the School Finance Project's Final Report (1983). In comparison to public school students, children attending private schools are more likely to be white, come from families with above average incomes, to live in the Northeast or North Central regions, and to live in a metropolitan area, particularly in the central city. Private school attendance is less frequent in high school (grades 9-12) than in elementary school, and is most common in kindergarten. Within the private school sector, families with incomes of over $50,000 are far more likely to enroll their children in independent schools than are those with incomes below $50,000. Two factors explain the last relationship: tuitions in independent schools tend to be considerably higher than those in church-related schools and the level of tuition paid is a function of family income. Kamin and Erickson (1981) found that parents who had attended private schools were more likely to choose private schools for their children than those who had not.

Framework for Analysis of Current Choice

Chapter 1 presented the model of schooling choice and the research questions which provided the framework for the design of the interview schedule and the analysis of the results. The research questions focused on three topics, the factors affecting parental decisions about schools for their children, the impact of private school costs on both public and private school parents, and the degree of parent awareness of and knowledge about schooling alternatives available to them. The primary dependent variable in the analysis is the choice of the current school, but all three of the research questions involve examining some variables in prior stages of the choice model as both

dependent variables in their own right and as independent variables affecting current choices. For example, the awareness of schooling options is an independent variable affecting current choice, but when one asks how such awareness differs among households of varying characteristics, awareness becomes a dependent variable.

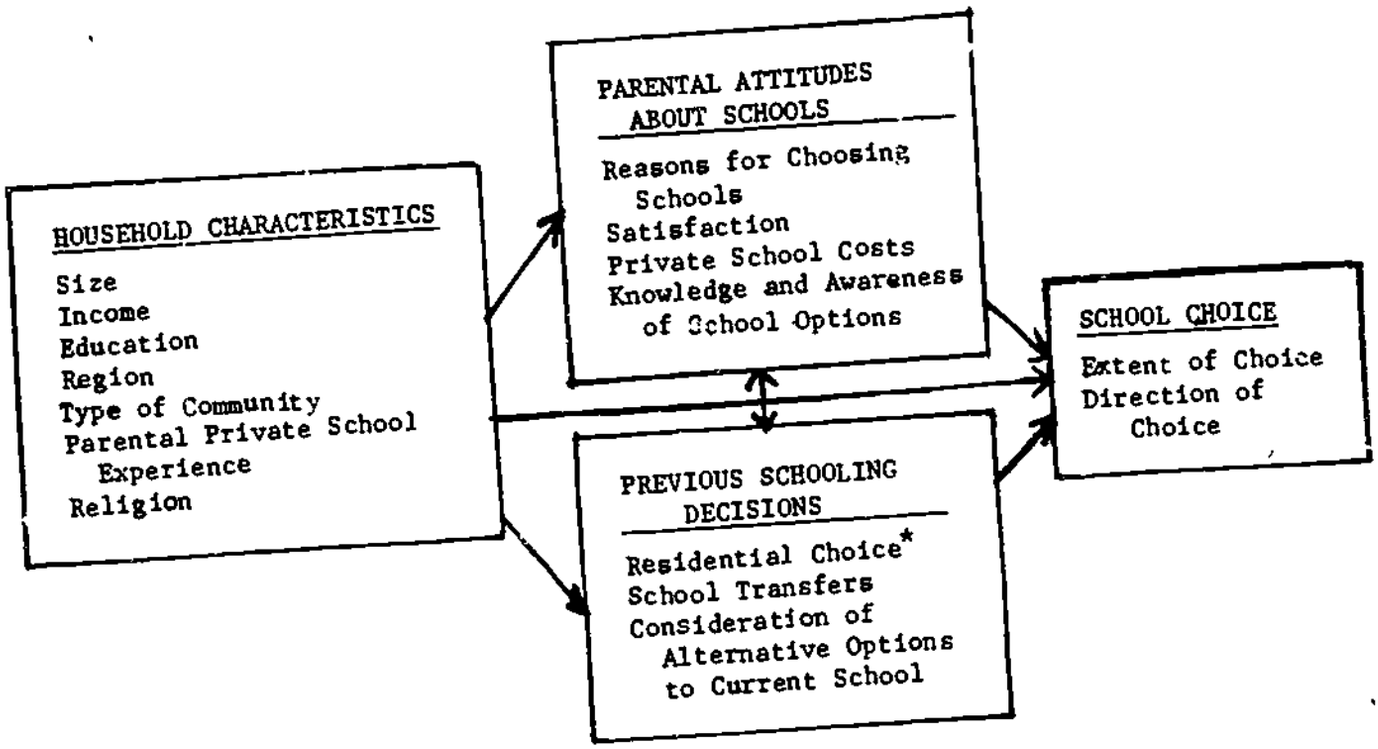
In order to gain maximum information about household schooling decisions, questions were included in the survey about such choices at several points in time. Most attention was devoted to the choice of the school the child was currently attending, but parents were also asked about the role of schools in the choice of a place to live, whether the parent had considered transferring the child from the present school or planned to do so in the next school year, and whether the child had ever attended the opposite type of school (public or private) from the one in which he/she was currently enrolled.

Figure 2-1 indicates the major classes of variables at each stage of the school choice model. The selection of the variables for each stage was based on previous research, hypotheses, and the research needs of the School Finance Project. For example, previous research (and common sense) suggest that demographic factors are strongly related to schooling choices, so questions were included in the interview schedule about respondent or household characteristics, such as race, income, education, size of the household, location, religion, and the type of schools the parent attended as a child. Previous research on school choice also indicated attitudinal factors that should be taken into account. For example, the literature indicated that satisfaction plays a major role in decisions to change schools and that different types of schools tend to be chosen for different reasons. Therefore, questions were included about satisfaction with the current school and a battery of questions was developed about factors which could possibly affect school choices. Since prior studies indicated that some parents give little consideration to the choice of schools, items that would measure the extent of choice exercised were included. Because of the interest in tuition tax credits, a number of questions about private school costs were placed in the survey.

Pretesting the interview schedule revealed the importance of the amount of thought given to choosing a school. The original interview schedule included a battery of questions asking parents to indicate how important a series of factors were in their decision to enroll the child in the current school. In the pretest, parents who said they had not thought about the choice of school had difficulty in responding to that set of questions. Some expressed annoyance and asked why the interviewer was asking them about all these factors after they had already indicated they did not make a conscious decision about the current school. As a result of the pretest, the instrument was modified. Public school parents who had thought of schooling alternatives in choosing

Figure 2-1

Components of the Model of School Choice



* School choice can affect residential choice as well as vice versa.

the child's current school were asked the detailed questions about the importance of specific factors in their choice. Public school parents who had not made a conscious choice about the current school were asked only two questions about factors affecting choice - - what was the most important factor, and if it was other than financial considerations, they were asked whether cost was a factor in their decision. For children currently enrolled in private schools, it was assumed that a conscious choice was made when the school was selected, so private school parents were also asked the entire set of questions about factors affecting choice.

Households differ not only in their decision about the type of school to which to send a child but also in the nature of the decision process itself. The major dimensions of choice that are examined are the type of school chosen and the extent of consideration given to the choice. Responses given by parents with a child in public school (called public school parents) are compared with those given by private school parents throughout this chapter.

Extent of Choice

All school-age children are entitled to attend public schools, and most are assigned to a particular public school, usually the one nearest their home which contains the child's grade. For most households, that assignment determines what school a child will attend and there is no consideration of other schools, either public or private. In other households (or even for other children in the same household), the process of school choice is more complex and more alternatives are considered. In addition, some households think about the choice of schools at a different point in time, i.e., when they are making a decision about where to live. The amount of thought given to a child's educational placement varies widely.

For the vast majority of children in the survey attending public schools, there was little conscious consideration of alternatives to the child's current school. The child's assignment to a specific public school was a standing decision that the household did not question. No other school than the one the child was currently attending was considered for 80 percent of public school children. (Public school parents will be referred to as making "active" or "latent" choices, depending on whether they did or did not consider other alternatives to the current school.)

However, the parents of approximately half the children in the survey said the public schools their children would attend influenced their choice of a place to live, and for 18 percent it was the most important factor in their choice. Public school parents were twice as likely as private school parents to indicate that the public schools were a factor in their choice of a place to live. Higher income and better educated parents as

Table 2-1

Consideration of Schooling Alternatives by
Public School Parents

Respondent	Percent Considering: Other Schools (1)	Public Schools in Residential Choice (2)	Both 1 and 2	Neither 1 nor 2	
All Respondents	19.7%	52.7%	11.1%	38.7%	(N=1749)
Race					
White	18.0	56.2	11.3	37.0	(N=1315)
Black	25.9	33.1	8.2	48.7	(N=262)
Hispanic	22.5	54.1	15.8	39.4	(N=130)
Other	15.4	63.4	10.1	31.7	(N=35)
Religion					
Protestant	17.8	53.3	9.9	38.5	(N=1008)
Catholic	21.6	53.2	13.5	39.3	(N=446)
Other	17.6	43.8	8.1	41.4	(N=174)
None	36.5	52.8	21.0	31.0	(N=100)
Parents' Education					
Non-High School Grad.	14.5	47.6	5.0	42.6	(N=320)
High School Graduate	19.4	47.8	10.6	43.3	(N=798)
Some College	25.4	57.6	15.1	31.9	(N=325)
College Graduate	23.8	69.1	18.6	25.7	(N=172)
Post-Graduate	12.0	65.0	8.7	32.0	(N=121)
Family Income					
Less than $7,500	19.9	42.0	8.0	45.5	(N=176)
$7,500-$14,999	19.2	32.4	4.3	53.1	(N=300)
$15,000-$24,999	23.4	54.4	16.3	38.3	(N=447)
$25,000-$49,999	19.2	62.2	12.8	31.2	(N=614)
$50,000 and Over	15.6	71.3	10.8	24.0	(N=115)
Region					
Northeast	25.9	40.3	11.1	45.4	(N=203)
North Central	20.2	57.7	12.8	35.0	(N=507)
South	17.0	52.0	9.7	40.3	(N=731)
West	21.0	55.7	12.0	35.2	(N=297)
Place of Residence					
Large City	25.4	48.1	13.6	39.6	(N=359)
Suburb	28.4	70.9	17.3	17.9	(N=268)
Medium City	22.1	58.7	13.9	33.5	(N=353)
Small City or Town	14.1	48.1	7.5	45.3	(N=525)
Rural	9.6	42.0	4.6	52.8	(N=239)
Parents' Schooling					
Public School Only	17.6	51.3	9.7	40.7	(N=1356)
Public and Private	29.9	53.9	15.9	32.5	(N=211)
Private School Only	32.1	73.2	25.2	20.0	(N=105)

well as households living in the suburbs were more likely to have considered schools in their housing decisions. Blacks were less likely to say schools were considered in their housing choice than others, as were residents of the Northeast and those who had attended public schools (Column 2, Table 2-1).

The proportions of "active" public school parents was slightly higher for blacks and Hispanics than for whites (Table 2-1). Households in the Northeast and parents who had attended private schools themselves in grades 1-12 were also more likely to have considered more than one school for their child. However, there was no consistent relationship between income or parent's education level and consideration of alternative schools. Similarly, there were no significant differences among parents with different religious backgrounds, except those with no religious preference were more likely to have made active choices than parents with a religious affiliation. Households in small cities, towns or rural areas were less likely to have considered alternative schools.

When the two types of choice behavior -- in residential decisions and selection of current school -- were used to compute a more complex measure of the extent of choice by public school parents, better educated households were generally more likely to make choices about schools both in choosing a place to live and when enrolling their child in the present school, whereas those making such decisions at neither time were drawn disproportionately from the less-educated and lower-income groups (columns 3 and 4, Table 2-1). If it is assumed that private school parents make choices among alternatives in selecting a school for their child, that further strengthens the tendency for higher status parents to make more choices about schooling, since on average private school parents are more affluent than public school parents.

Parents who themselves attended only private schools tended to have considered schools at both points in the decision process more than others. People living in rural areas and small cities and towns were least likely to have made a choice at both decision points, while suburban residents were disproportionately represented among those who had considered schools in their residential decision but had not given additional thought to it when enrolling the child in the present school. The largest group of parents was those who had considered schools only when choosing a place to live in every region except the Northeast, where the largest group was parents who had thought about schools at neither point of decision.

In general, parents are far more likely to think about schools when deciding where to live than when enrolling a child in a particular school, and this pattern is evident in virtually all the demographic categories in Table 2-1. Column 2 is larger than column 1 in every row in that table, and in most instances it is larger by a factor of two or more.

More consideration is given to the selection of a child's school by higher status parents, those who live in metropolitan areas, and those who attended private schools as a child. Consideration of schools as a part of housing decisions was more strongly related to higher status or suburban location than was an "active" school choice at the time of the child's enrollment in the current school. Blacks were more apt to make an active school choice, but relatively few considered schools as a part of residential choices. Since many more parents thought about schools when choosing where to live than when enrolling their child, blacks also were more likely to have considered schools at neither decision point.

Direction of Choice

Household Characteristics

Public and private school parents demonstrated systematic differences in their characteristics (Table 2-2). Respondents with a child in private school tended to be better educated, to have higher family incomes, to be Catholic, to have attended private schools themselves, and to live in large or medium-sized cities. Neither the size of the household nor the number of children was related to choice of a public versus a private school, and the race of the respondent made little difference. There was a slight tendency for Hispanics to choose all types of private schools less frequently than whites, but that was not true for blacks or other minority respondents in the survey. Private school enrollment varied little among the regions.

The proportion of private school students enrolled was higher in kindergarten than in any other grade level. Non-Catholic religiously-affiliated schools and independent schools had a much higher proportion of students in kindergarten than either Catholic or public schools.

In addition to the differences between the backgrounds of public and private school students, there was variation among the types of private schools as well. Independent school students came from middle and upper income families and had highly educated parents (Table 2-3). The parents of Catholic school students tended to have attended private schools themselves, and have above average incomes. Parents of students in other religiously-affiliated schools were more similar to public school parents, yet there was still underrepresentation of the less educated and lower income parents.

As would be expected, there were differences in the religious and racial backgrounds of students in the three types of schools (Table 2-3). The parents of children in Catholic schools were Catholic, while Protestants predominated in non-Catholic religiously-affiliated and independent schools, with a sizable minority of those from other religious backgrounds. The racial backgrounds of children in Catholic schools

Table 2-2

Household Characteristics and Current School Choice

	Public Schools	Private Schools	Number
All Respondents	88.1%	11.9%	(N=2004)
Race			
White	87.1%	12.9%	(N=1518)
Black	89.7	10.3	(N=297)
Hispanic	95.1	4.9	(N=139)
Other	89.0	11.0	(N=41)
Religion			
Protestant	91.8%	8.2%	(N=1109)
Catholic	80.1	19.9	(N=561)
Other	86.7	13.3	(N=206)
None	95.8	4.2	(N=103)
Parents' Education			
Non-High School Graduate	96.3%	3.7%	(N=341)
High School Graduate	93.4	6.6	(N=859)
Some College	82.3	17.7	(N=396)
College Graduate	78.8	21.2	(N=218)
Post-Graduate	72 5	27.5	(N=168)
Family Income			
Less than $7,500	96.2%	3.8%	(N=183)
$7,500-$14,999	95.3	4.7	(N=320)
$15,000-$24,999	89.8	10.2	(N=499)
$25,000-$49,999	84.2	15.8	(N=736)
$50,000 and Over	75.7	24.3	(N=153)
Region			
Northeast	89.3%	10.7%	(N=231)
North Central	86.8	13.2	(N=585)
South	89.0	11.0	(N=833)
West	88.4	11.6	(N=337)
Place of Residence			
Large City	83.9%	16.1%	(N=431)
Suburb	86.5	13.5	(N=311)
Medium City	84.8	15.2	(N=421)
Small City or Town	91.2	8.8	(N=584)
Rural	95.4	4.6	(N=251)
Parents' Schooling			
Public School Only	91.3%	8.7%	(N=1498)
Public and Private	85.7	14.3	(N=248)
Private School Only	61.1	38.9	(N=176)

Table 2-3

Characteristics of Public and Private School Students

	Public Schools	Catholic Schools	Other Religious Schools	Independent Schools
	(N=1758)	(N=132)	(N=69)	(N=38)
Race				
White	75.2%	78.7%	86.1%	88.5%
Nonwhite	24.8	21.3	13.9	11.5
	(N=1745)	(N=128)	(N=69)	(N=38)
Religion				
Protestant	58.8%	12.9%	71.5%	66.4%
Catholic	25.8	82.4	6.6	5.3
Other	10.2	3.1	21.9	22.1
None	5.6	1.6	0.0	6.2
	(N=1751)	(N=130)	(N=64)	(N=38)
Parents' Education				
Non-High School Graduate	18.8%	4.2%	10.9%	0.0%
High School Graduate	45.8	27.4	27.3	9.3
Some College	18.6	30.8	22.7	41.2
College Graduate	9.8	19.7	28.1	7.9
Post-Graduate	6.9	17.9	10.9	42.0
	(N=1664)	(N=127)	(N=65)	(N=35)
Family Income				
Less than $7,500	10.6%	4.7%	1.6%	0.0%
$7,500-$14,999	18.3	3.6	14.7	2.8
$15,000-$24,999	26.9	22.9	27.9	11.3
$25,000-$49,999	37.2	52.1	49.6	52.4
$50,000 and Over	6.9	16.8	6.2	33.5
	(N=1754)	(N=127)	(N=69)	(N=37)
Region				
Northeast	11.7%	10.1%	16.1%	2.7%
North Central	29.0	48.1	13.1	18.8
South	42.3	26.0	55.5	55.6
West	17.0	15.8	15.3	22.9
	(N=1760)	(N=132)	(N=69)	(N=38)
Place of Residence				
Large City	20.5%	32.6%	21.2%	31.4%
Suburb	15.3	18.6	21.9	6.6
Medium City	20.3	20.7	29.9	42.5
Small City or Town	30.3	20.9	25.5	16.8
Rural	13.6	7.2	1.5	2.7
	(N=1687)	(N=130)	(N=68)	(N=38)
Parents' Schooling				
Public School Only	81.0%	34.3%	79.3%	87.2%
Public and Private	12.6	19.1	10.4	10.2
Private School Only	6.4	46.6	10.4	2.7

approximated those of public school children, while whites were overrepresented in the other two types of schools.

Students in independent schools came from large and medium-sized cities. Students in Catholic and other religious schools were fairly evenly distributed, except that a higher percentage lived in suburbs than was the case for public or independent school households. The religious schools differed among themselves in that students enrolled in other religious schools came more from small cities or towns and less from large cities than Catholic school students. All three types of private schools were underrepresented in rural areas, but Catholic school students were most prevalent in such areas.

These relationships between respondent characteristics and school choice may be due to several factors which influence the choice of schools. One is the cost of attending private schools. Better educated and higher income parents may be more likely to send their children to private schools, especially independent schools where tuition tends to be higher, because they are better able to afford it. A second factor could be availability. There may be fewer private schools in less populated places. Another is the desire for an education with a particular religious orientation. A final factor, and one that probably reflects both the cost and religious dimensions, is the strong impact of the respondent's own school experience. Those who had attended only private schools themselves were far more likely than those who had no history of private school attendance to select private schools for their own children.

Reasons for School Choice

All respondents were asked to specify the most important factor influencing the choice of school for their child. Three types of factors were mentioned most frequently as the most important factor and accounted for two-thirds of the responses -- assignment of the child to a particular school (25 percent), transportation or convenience (22 percent), and academic considerations (20 percent). No other specific factor was mentioned by more than 10 percent of the parents.

The relative importance of the various factors in household choice differed a great deal among public and private school parents (Table 2-4). The private school parents tended to mention three groups of factors -- discipline, values or religious instruction, and academic quality (which included academic standards, curriculum, and administrative policies). Public school parents also emphasized three factors -- academic quality, transportation and the fact the student was assigned to a particular school. The primary differences between "active" public school parents and private school parents were somewhat different and involved the factors of finances and values/religion. For both

Table 2-4

Factors Associated with Current School Choice of Public and Private School Parents

	Public School Parents			Private School Parents
	Did Not Consider Other Schools	Considered Other Schools	All	
Most Important Factor in Choosing Current School	(N=1387)	(N=307)	(N=1698)	(N=234)
Finances	7.1%	19.5%	9.3%	0%
Assignment to a School	34.2	0	28.2	0
Transportation/Convenience	26.3	15.0	24.1	3.6
Values/Religion	0.1	2.0	0.5	29.8
Academic Standards/Courses	13.2	32.6	16.7	41.9
Discipline	0.8	4.7	1.5	12.2
Teachers	2.8	14.3	4.9	7.1
Very Important Factor in Choosing Current School		(N=324)		(N=236)
Academic Standards	-[1]	83.4%		84.0%
Discipline	-	85.6		87.1
Staff	-	88.4		87.7
Courses	-	68.7		62.4
Civic/Moral Values	-	65.7		75.1
Finances	-	54.0		16.7
Religious Instruction	-	29.5		61.6
Mix of Student Backgrounds	-	37.3		22.3
Desegregation	-	21.9		12.9
Convenience	-	43.7		25.0
Child's Desire	-	42.5		33.7

[1]These questions were not asked of public school parents who said they had not considered other schools at the time of enrolling the child in the current school.

groups the most frequently mentioned reason was academic factors.

There were also large differences between public school parents making "latent" and "active" choices. Those who had thought about more than one school were more likely to mention school costs and school quality as the most important factor in their ultimate schooling selection (Table 2-4). Those who had not considered other schools at the time of enrolling the chi'd in his/her present school at most had only considered the current school and found it acceptable. Over half these parents mentioned student assignment, transportation or convenience as the most important reason for the choice of schools, reasons which suggest the acceptance of the neighborhood public school. Some had chosen the place to live because of the schools, but many never seemed to give much thought to school options. Whether or not a parent had considered the public schools as a factor in choosing a place to live was unrelated to the reasons cited for selecting a school among public school parents.

There were also differences among the private school parents. Those choosing other religious schools were the least likely to mention academic considerations as the most important factor and the most likely to cite religious or moral values (Table 2-5). On the other hand, those selecting independent schools were the most likely to indicate that academics were the most important reason for selecting a school. Religious or moral values were second to academic factors as the reasons cited for choosing a Catholic school.

Table 2-5

Factors Associated with Current Parental Choice of Different Types of Private Schools

Most Important Factor in Choosing the Current School	Type of Private School		
	Catholic (N=129)	Other Religiously-Affiliated (N=67)	Independent (N=36)
Values/Religion	29.9%	42.9%	6.9%
Academic Standards/Courses	45.4	22.0	63.1
Discipline	11.8	14.2	7.8
Teachers	5.4	9.0	12.4

Parents making "active" choices -- private school parents and public school parents who had considered more than one school -- were asked if a variety of factors had played a role in their decision about school choice. The differences between public and private school parents within this group in terms of the types of factors emphasized were not nearly as great as for the sample as a whole. Nearly all parents who made an explicit choice about schools said discipline and the quality of the staff were very important, and that academic standards and courses were very or somewhat important in their choice.

The primary differences between "active" public school and private school parents involved the factors of cost, which was rated as important in the choice of public schools but not private schools, and religious instruction, which was important for private school parents. Cost was primarily a negative reason, a reason for not choosing a private school. Finances were considered by nearly 75 percent of "active" public school parents and by about 50 percent of parents with children in private schools. Costs were very important for over half the public school parents but for less than 20 percent of private school parents (Table 2-4). (One third of public school parents making a "latent" choice said cost was a factor.)

The differences among private school parents on these questions were similar to those mentioned above relative to the "most important factor" queston. Independent school parents emphasized courses offered as a very important factor, but were least likely to cite religious instruction or civic/moral values. Those with children in other religious schools mentioned religious values frequently, but were the least likely to mention the courses offered.

In summary, neither public nor private school parents represented undifferentiated groups in terms of the nature of the choice process. For most public school parents, the choice of schools was determined at the time of choosing their place of residence; once that was decided, there was less consideration of the specific school the child would attend. "Active" public school parents, who had considered options other than the present school at the time of enrollment in it, more closely resembled private school parents in the factors they cited, with academic factors being mentioned most frequently. Parents chose different types of private schools for quite different reasons; other religious schools in particular were chosen because of their religious orientation (with less concern for academics), while independent schools were selected primarily because of their academic characteristics.

There were few differences in factors mentioned between those considering schools in their residential decisions and those who did not. However, those who considered schooling options at both decision points were at least twice as likely to mention

Table 2-6

Satisfaction with Child's Current School

	Extent of Satisfaction				
	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	
All Respondents	60.5%	26.5%	8.2%	4.8%	(N=2001)
Type of School					
Public	57.2%	28.5%	8.9%	5.4%	(N=1759)
Catholic	86.5	8.5	4.2	0.8	(N=132)
Other Religious	83.9	14.6	1.5	0	(N=69)
Independent	78.3	20.3	1.4	0	(N=36)
Choice Behavior by Parents					
Private School	84.4%	12.0%	3.1%	0.4%	(N=238)
Active Public School	38.4	33.6	16.1	11.9	(N=344)
Passive Public School	61.8	27.1	7.2	3.9	(N=1410)
Family Income - All Respondents					
Under $7,500	51.4%	30.6%	6.5%	11.5%	(N=184)
$7,500-$14,999	57.7	28.4	8.6	5.3	(N=320)
$15,000-$24,999	58.2	25.7	11.0	5.2	(N=498)
$25,000-$49,999	61.9	27.8	7.6	2.7	(N=733)
$50,000 and Over	69.9	21.8	4.7	3.6	(N=153)
Family Income - Public School Students					
Under $7,500	49.1%	32.0%	6.8%	12.1%	(N=176)
$7,500-$14,999	56.6	28.7	9.1	5.6	(N=303)
$15,000-$24,999	54.6	27.6	12.2	5.6	(N=446)
$25,000-$49,999	58.0	30.7	8.0	3.2	(N=617)
$50,000 and Over	63.9	25.5	5.8	4.8	(N=115)
Parent's Educational Experience - All Respondents					
Public School Only	58.4%	28.6%	7.9%	5.1%	(N=1495)
Mixed Public & Private	60.6	23.7	11.5	4.2	(N=250)
Private School Only	72.3	17.9	6.1	3.7	(N=174)
Parent's Educational Experience - Public School Students					
Public School Only	56.5%	29.7%	8.3%	5.5%	(N=1363)
Mixed Public & Private	56.4	25.9	12.8	4.9	(N=213)
Private School Only	56.2	27.6	10.0	6.2	(N=105)

academic factors than anyone else and those who considered schools only in the residential selection or not at all were more likely to mention assignment, transportation or convenience as factors influencing their choice of school.

Satisfaction with Current School Choice

In general, parents were quite satisfied with the current school their child was attending (Table 2-6). However, those that were dissatisfied tended to be parents of public school students (14 percent as opposed to 3 percent for private school parents). Public school parents who had considered other schools as they decided where to send their child to school displayed a particularly low level of satisfaction. On the other hand, public school parents who had not thought about schools in selecting a place to live were more likely to be dissatisfied than those who had. Parents of high school students were more likely to be dissatisfied in both private and public schools.

Parents who were dissatisfied with their child's school tended to cite three types of reasons for their dissatisfaction - - curriculum, discipline, and the quality of instruction. Approximately half the dissatisfied parents mentioned the quality of instruction, the teaching methods, or teachers themselves as reasons for their dissatisfaction, while the quality of teachers was rarely mentioned as affecting people's choice of school. Thus it appears that while teachers may not be a reason for initially selecting a school, experience with the staff or, more likely, with a particular teacher or teachers can produce dissatisfaction, and may be a reason for leaving a school. There were no differences among the types of schools in the frequency with which these reasons for dissatisfaction were mentioned.

Satisfaction was related to income. The proportion very satisfied with their child's school increased steadily as income increased. This may reflect greater choice opportunities for higher income families in selecting a school for their child and/or a place to live convenient to the schools they find acceptable. Other variables associated with the choice of private schools, such as religion, type of school the parent attended, and place of residence, also were associated with satisfaction. However, this was a reflection of the greater satisfaction with private schools; those demographic variables were not associated or were much more weakly associated with satisfaction among parents of public school students (Table 2-6).

Factors Associated with School Transfers

Some children in the sample had attended both private and public schools, and additional insights into the reasons for school choice and factors in switching schools may be gained by looking at these children. Seventeen percent of public school students had once attended private schools. Nearly one-half of private school students had once

Table 2-7

Reasons for Transferring a Child
from One Type of School to Another

Reason for Transfer[1]	Transfer from Public to Private (N=114)	Transfer from Private to Public (N=307)
Cost	0%	23.5%
Move	0	21.2
Child Old Enough for Public School	NA	16.9
Child Too Old for the Private School	NA	9.1
Convenience/Transportation	2.6	7.2
Academic Standards	26.3	9.1
Curriculum	6.1	3.6
Teachers	12.3	3.9
Discipline	24.6	0
Religious Instruction	24.6	0.

NA Not Applicable

[1]Most frequently mentioned reasons for each type of transfer. Parents may have mentioned more than one reason.

Table 2-8

Public School Parents Who Had Considered
but Decided Against Transferring Child to Private School

Reasons Mentioned for Not Transferring to Private School	Percent of Public School Parents Who Had Seriously Considered Transferring Child to Private School (N=345)
Cost	57.1%
Transportation	13.1
Academic Factors	11.6
Acceptance at Private School	7.0
Child's Preference	6.5
Belief in Public Schools	3.2
Religious Considerations	2.8

attended public schools. In total numbers of children, more moved from the private to the public sector (15 percent of the sample) than vice versa (6 percent). The moves from private to public schools were primarily attributable to two major factors, cost and availability. The cost of private schooling was the reason most often mentioned as the reason for the switch to a public school (Table 2-7). Two factors related to availability were also prominent -- the change came because of a change of residence, or the private school did not cover higher grades. Availability of public alternatives was also important in accounting for witches from private to public schools in cases where children were enrolled in private kindergartens because there was no public kindergarten or where the child started in private school because she/he was too young to enter kindergarten or first grade in the public schoo. .t year. For these children, public schooling was not available initially but when it became an option, the parents transferred the child to the public school. The other two major reasons for transferring a child from a private to a public school were academics and convenience.

Very different kinds of reasons were mentioned as reasons for switching from public to private schools, and they tended to parallel the reasons parents gave for being dissatisfied with their child's present school. Academics were cited most frequently, with discipline and teachers as other frequently-mentioned factors. The only reason for transferring that was not also a reason for dissatisfaction was religious instruction or value-orientation. In general, parents appeared to transfer a child from a public to a private school because of dissatisfaction with the public school, while a move from private to public schools resulted not from dissatisfaction but for financial or logistical reasons.

There were also public school parents who had considered switching their child from a public to a private school at some point, but decided against it. Approximately one fourth of the public school parents whose child had always attended public schools fell into this category. The reasons given for not transferring the child reflect the previous patterns; public schools tend to be chosen for cost or logistical reasons. By far the most important factor cited by these parents for not transferring the child to a private school was cost (Table 2-8). Frequently mentioned logistical factors included transportation and the acceptance of the child in a private school. On the other hand, academic factors including support or satisfaction with the public school's curriculum, teachers, the administrative policies, or satisfaction with the public schools in general, constituted the third most frequently cited group of reasons for keeping children in the public schools.

Respondents were asked if they planned to enroll their child in a different school in the next school year, and they indicated that approximately 1 out of every 6 children would be in a new school in September. There was no difference in the frequency of such anticipated moves by public and private school parents, but private school children were likely to change type of school far more than those in public schools. Nearly all the public school children switching schools would be in another public school, while half of the transfers by private school students would be to a public school rather than another private school. Respondents were not asked the reason for the changes, but it seems likely that most reflect normal points of transition, such as the child being in the highest grade of his/her current school. Such changes were reported most frequently by parents with children in kindergarten, and grades 5, 6, 8 and 9. They were twice as likely to occur if the child was in grades K-8 than in the high school grades (9-11).

Private School Costs

There is considerable variation in the actual cost of sending a child to a private school. Slightly over a third of the private school parents estimated their total costs to be between one and two thousand dollars, while roughly one fifth estimated costs in three other categories — under $500, $500 to $999, and $2000 or more (Table 2-9).

When parents were asked how much of a financial burden private schools costs were for them, a similar distribution of responses was apparent -- slightly over one third said a moderate burden, and one fifth fell in each of the other categories -- no burden, light burden, and heavy burden. Of those who indicated that the costs were a moderate or heavy burden, less than one fifth said they had ever considered transferring their child to a public school because of the high cost. Thus, many private school parents did not seem to perceive the financial costs as being a major burden. On the other hand, private school parents on the whole reported higher family incomes. Families who could not afford the costs of private schools tended to keep their children in public schools. Thus, some public school parents cited costs as a reason for choosing their child's present school or not transferring him/her to a private school.

The financial burden of private schools appeared greatest for those incurring moderately high costs ($1,000 to $1,999). This group of parents was most likely to say that private school costs were a moderate or heavy financial burden and that they had considered transferring their child to public schools because of the costs. Parents paying the highest costs ($2,000 or more) tended to have high incomes, which may explain why very high private schools costs were less likely to be perceived as a burden. Families with incomes under $50,000 experienced far more financial strain as a result of sending a child to private school than those with incomes above $50,000 (Table 2-9). Less than 10

Table 2-9

Financial Burden of Private School Costs

	Financial Burden of Private School Costs				Considered Transfer to Public Schools[1] Because of Cost
	Heavy	Moderate	Light	None	
All Private School Respondents (N=237)	21.4%	37.6	19.8	21.1	18.0% (N=140)
Family Income					
Under $25,000 (N=71)	29.5%	36.8	21.1	12.6	13.8% (N=47)
$25,000-$49,999 (N=118)	21.7%	44.3	11.5	22.6	18.6% (N=86)
$50,000 and Over (N=37)	0.9%	21.6	49.9	27.6	
Total Private School Costs					
Under $500 (N=49)	12.2%	34.0	26.4	27.4	18.4% (N=49)
$500-$999 (N=51)	23.3%	27.7	20.8	28.2	
$1000-$1999 (N=80)	25.4%	47.0	10.7	16.9	23.8% (N=58)
$2000 and Over (N=52)	24.6%	38.3	25.9	11.2	6.1% (N=33)

[1]These respondents included only those who indicated that private school costs represented a moderate or heavy financial burden.

percent of the households with children in private schools received any financial aid for private school costs.

Knowledge about Private Schools

Public school parents varied considerably in their knowledge of and contact with private schools. Parents of public school students were asked whether there were private schools serving their child's grade in their community or nearby. Approximately one fourth said there were no such schools. This percentage was lowest in the Northeast (21 percent). Parents living in rural areas were more likely to say such schools did not exist than those living in suburban areas, and higher-income and better-educated parents were more apt to indicate that private schools were available to serve their children. Public school parents who indicated that private schools were available were also more likely to have considered schooling alternatives when they selected their child's current school.

Public school parents were asked to give rough estimates of average tuition costs (under $500, $500-$999, $1000-$1999, $2000 and over) in their community for the three types of private schools and many did not feel knowledgable enough to respond to these questions. Slightly over half gave an estimate for Catholic schools, while the proportions were slightly less than 40 and 30 percent respectively for other religious and independent schools. Information about tuition at more than one type of school was even more limited. Less than two fifths gave estimates for two or three types of schools, while one third of public school parents could not estimate tuition costs for any of the types of schools.

Parents in large and medium cities and suburbs were more likely to offer an estimate of costs, as were those with higher incomes and more education. In addition, parents who had thought about other schools for the child, who had themselves attended private schools or whose child had once attended a private school, who planned to enroll their child in a new school in the fall, or who said private schools were available, all were able to estimate tuition costs at more types of private schools.

Two composite measures were developed to indicate the extent of experience or contact public school parents had had with private schools. (See Appendix H for a description of these two measures.) The two variables displayed similar patterns: parents with lower incomes, who lived in rural areas, or were Protestants had less experience with and were less predisposed toward private schools than others. Greater experience and predisposition also increased as parents' ability to estimate tuition costs improved and as the perceived availability of private schools increased. In addition, public school parents with more experience with and predisposition toward private schools were more likely to think about the choice of their child's school, both in selecting a place to live

ar i in enrolling the child in the present school.

Multivariate Analyses of Current School Choice

Many factors affect school choice, and the impact of each one has been examined separately. Since a number of these factors are themselves related, it would be useful to evaluate the relative importance of the independent variables. With economic data, the multivariate statistical technique that would be used to disentangle the separate effects of multiple independent factors on a dependent variable would be regression analysis. However, that technique is not appropriate for survey data, which is categorical rather than continuous.

Log-linear analysis, a technique which has been developed for categorical data, was used to develop a multivariate causal model of school choice. The particular procedure used was the logit procedure in SPSS-X, Alpha Test Release 2. (SPSS, 1983). Because the dependent variable in a logit analysis must be dichotomous, there were limits to the analyses which could be undertaken. Current choice was defined in terms of a child's enrollment in a public or private school; differences within the private sector were not explored because the sample size was too small. Logit analysis involves examining every possible combination of values for the independent variables, and the iterations may not converge if there are few or no cases in too many cells. As a result there were some limitations on the number and combinations of variables that could be used simultaneously in each logit procedure. Given the sample size, the SPSS logit procedure could handle no more than seven independent variables.

Household characteristics and reasons for school choice were used as independent variables in a variety of logit models of current choice. The variables and the way in which they were dichotomized are indicated in Table 2-10. These variables were chosen because they all demonstrated strong bivariate relationships with the dependent variable, current choice behavior. The decisions about how to dichotomize the demographic variables were based on two considerations. The primary one was to maximize the extent of differences among the two categories of the independent variable with respect to the dependent variable, subject to the second consideration that there would be a sufficient proportion of cases in both categories. The temporal order of the independent variables, i.e. household characteristics assumed to be prior to attitudes, was based on the initial choice model (Figure 2-1). All the arrows indicated in the choice models (Models 2-1, 2-2, and 2-3) represent logit coefficients that are significant at the .05 level. Further information from the logit analyses used to construct the causal models is presented in Appendix G.

Table 2-10

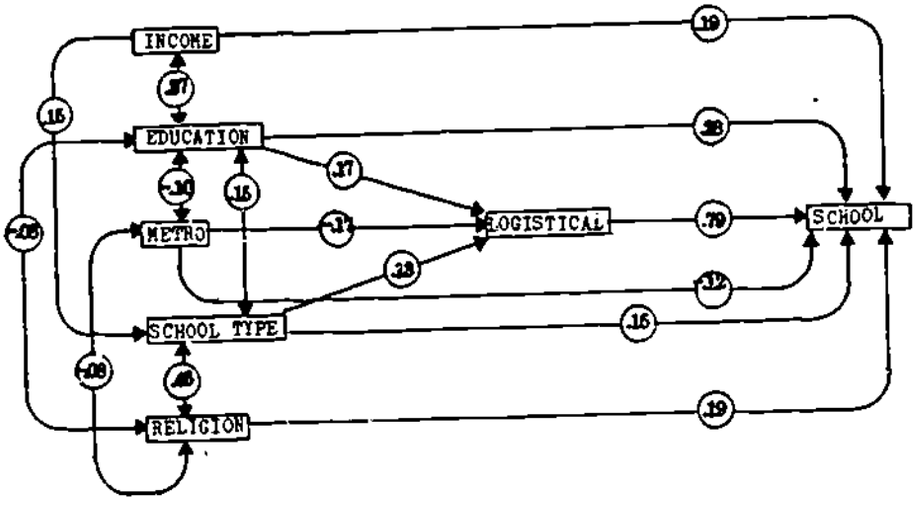
Variables in Logit Analyses of Current School Choice

Variable	Categories
School	Current School 1. Public 2. Private
Choice	Extent of consideration of school choices 1. At time of housing decision and/or school enrollment 2. At neither time
Income	Household income 1. Under $15,000 2. $15,000 or above
Education	Respondent's educational attainment 1. High school graduate or less 2. At least some college
School Type	Type of school respondent attended 1. Only public 2. Mixed or only private
Religion	Respondent's religion 1. Protestant/none 2. Catholic/other
Metro	Place of residence 1. Large or medium city, suburb 2. Small city or town, rural
Race	Race of respondent 1. White 2. Nonwhite

Logistical	Logistical factor (transportation, assignment, location, convenience) as most important in school choice (all parents) 1. Yes 2. No
Cost	Cost as very important factor (for "active" choosers) 1. Yes 2. No
Religious Instruction	Religious instruction as very important factor (for "active" choosers) 1. Yes 2. No

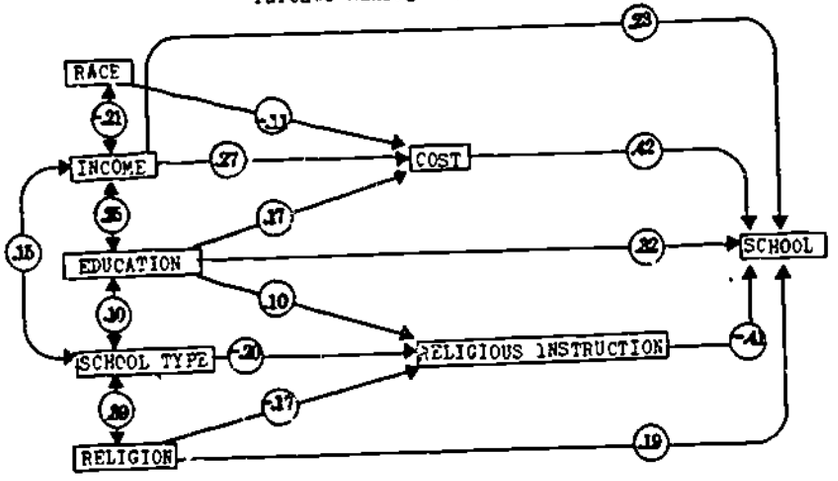
MODEL 2-1

Causal Model for Current School Choice--
All Parents*



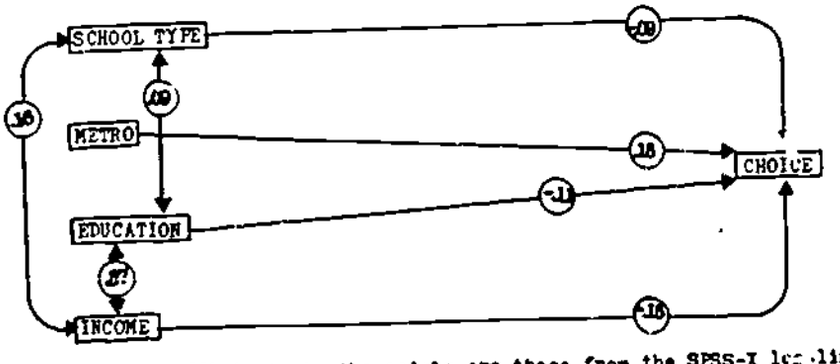
MODEL 2-2

Causal Model for Current School Choice--
Parents Making "Active" Choice*



MODEL 2-3

Causal Model for Extent of School Choice--
Public School Parents*



* The coefficients in the models are those from the SPSS-X log-linear procedure. Twice the coefficient is similar to the regression coefficient in an ordinary least-squares equation. All the coefficients are significant at the .05 level.

All the variables included in the causal model of current choice for the entire sample (Model 2-1) had a significant direct impact on the probability that a parent would choose a public school for their child. However, one variable, the mentioning of a logistical consideration as the most important factor in selecting the current school, far outweighed the importance of any other variable in the model. This reflects the responses of the large proportion of public school parents making "latent" choices. When asked what was the most important reason for selecting the current school, they tended to cite logistical reasons as the most important factor. Because of the way the logit procedure operates, only one "most important" variable could be entered into a single model. Models employing other factors, such as academic factors or cost, did not fit as well as Model 2-1 which included logistical considerations.

In terms of demographic variables, the results from Model 2-1 are consistent with those from the bivariate crosstabulations. Parents with lower incomes, less education, who lived outside large metropolitan areas, attended only public schools, and had no or a Protestant religious preference were more likely to enroll their child in a public school. Of these factors, education had the strongest effect and metropolitan residence least, but the differences among the demographic factors were small.

Two reasons may contribute to the lack of strong relationships for any factor other than logistical considerations. One is the large proportion of public school parents who had not made an "active" choice; the second is the skewed distribution of the dependent variable - - 87 percent public and 13 percent private. For these reasons, a choice model was developed for those parents who had made an "active" choice to see if the relationships with choice were any clearer, stronger, or different for this group of parents. Models for this group of parents could be developed which included more than one variable related to reasons for choice.

Among the "active" choosers, the proportion of children enrolled in private schools was much higher (43 percent) than for the sample as a whole. Again reasons for school choice were more strongly related to school selection than were demographic characterics of the parents (Model 2-2). The two reasons for choice that were the best predictors of school type were cost and the availability of religious instruction. The former was associated with the choice of a public school and the latter with the choice of a private school. Three demographic variables had a direct influence on school choice: income, education, and religion - - and of these, education had the largest effect. Furthermore, education had the greatest indirect effect as well, as it was the only demographic variable that was related to both reasons for choice in the model. Parents with at least some attendance at college were less likely to mention cost or religious

instruction as a factor. The other variables associated with mentioning cost were income and race. Nonwhites and less affluent respondents were more likely to cite cost as a factor. Parental attendance at a private school and a Catholic or other religious preference increased the likelihood that a parent would mention religious instruction as a very important factor in selecting a school and thereby indirectly increasing the probability that a private school would be chosen.

A third logit model (Model 2-3) was developed for the extent of choice exercised by public school parents in choosing a school. The dependent variable was whether parents considered schooling alternatives -- when enrolling the child in the current school and/or when choosing a place to live -- or not.

Four demographic variables were related to whether parents considered schooling options -- parental school type, education, income, and metropolitan residence. Attending only a public school, having less education or a lower income, and living outside a large metropolitan area increased the probability that no conscious consideration was given to schools at either point in time. Metropolitan location and income had the strongest impact on the extent of choice exercised by public school parents.

Conclusion

The findings about school choice from the survey are generally consistent with the limited evidence on this topic in the literature. Similar to several other studies, the survey revealed that a substantial number of public school parents give little thought to the school their child would attend and that such parents tend to be less well-educated, have lower incomes, and to be less informed about schooling options. The survey also revealed that such parents are more likely to live in nonmetropolitan settings and to have attended only public school themselves.

The factors identified in the survey as being associated with school choice and the transfer from one school to another are also consistent with the results of previous research. Parents tend to choose private schools because they are dissatisfied with or cannot find what they want in the public schools. Different factors are associated with the choice of different types of private school. Parents tend to choose church-related schools because of their own religious orientation, while independent schools are selected because of academic factors. To a lesser extent, Catholic schools are also chosen for academic reasons. Transfers tend to occur in grades that are natural transition points, such as first grade or at the time of entry into middle or high school.

The cost of a private school education had quite different consequences for public and private school parents. While cost was a major factor inhibiting the selection of a

private school for public school parents, particulary less affluent ones, it was not a major factor influencing the choice of private school parents. Furthermore, many private school parents did not perceive what they were paying in private school costs to be a particular burden. That may have been a function of family income, since private school parents as a group had higher incomes.

In terms of the general model of school choice presented at the beginning of this chapter, both household characteristics and attitudinal factors were strongly associated with schooling choices. The exact nature of the relationships varied with the amount of thought given to the selection process. Logistical considerations were by far the most significant variables accounting for school choice in the sample as a whole, but this reflects the large group of public school parents who had accepted the child's assignment to the local neighborhood school. (That group includes parents who said they had chosen their present place of residence in part because of the public schools their children would attend.) Among parents who had given some thought to alternatives at the time of enrolling their child in the current school, the choice of that school was also heavily influenced by the priority given to certain reasons for choice, but different ones than for the sample as a whole. None of the demographic factors were as important as the reasons for choice of cost and the availability of religious instruction, and much of their impact was indirect, through the intervening factors of reasons for choice.

Two indicators of socio-economic status, household income and respondent's education, did have substantial direct and indirect effects on the choice of schools. Higher status parents were more likely to enroll their children in private schools and were also less likely to mention cost, which was associated with public school enrollment, as a factor in their school choice. In addition, a parent's own school experience was associated with both the extent and outcome of school choice. Parents with only public school experience were less likely to choose a private school for their child or to consider alternatives in the selection of a school. Education was the most powerful demographic variable in both models of the direction of school choice.

Chapter 3

TUITION TAX CREDITS: SURVEY RESPONSES

While there has been much discussion of tuition tax credits in recent years, there is little practical experience by which to judge the impact of such a policy. The School Finance Project attempted to provide some insight into this question through the household survey. This chapter summarizes the survey results related to tuition tax credits. Chapter 4 will discuss the interpretation and implications of these findings. Responses to the survey questions represent expressions of preferences, and may not always indicate what the parent would do if a tax credit were instituted at some time in the future. Chapter 4 discusses this issue and its implications for the interpretation and use of the survey results.

Previous Research

While many have speculated about the effects of tuition tax credits on public and private schools and revenue losses to the Federal Government, relatively few have gathered or analyzed empirical data on such effects. Those efforts can be divided into two types of analyses, ones based only on students currently enrolled in private schools, and others that try to estimate the extent to which students would change schools under a credit. The first group of studies will be discussed briefly, but those that attempt to take the full impact of a tuition tax credit into account will be discussed in greater detail.

There have been six attempts to estimate the effects of a tuition tax credit based on current enrollments in private schools (Jacobs, 1980; Catterall, 1981; Congressional Budget Office, n.d., and 1981; Longanecker, 1981; Augenblick and McGuire, 1982). These studies have focused on several issues: the distribution of benefits to various segments of the population (by region, race and income category), the impact of varying aspects of the credit (level, refundability, and percent of tuition covered), and the cost of a credit to the Federal Government in terms of lost tax revenues.

The findings of these studies have been generally consistent. The distribution of benefits among geographic areas and classes of individuals would primarily reflect the patterns of enrollments in private schools. Therefore, whites, upper income families, and the Northeast and North Central regions would receive disproportionate shares of benefits from tuition tax credits because of higher rates of private school attendance. Differences in tuition levels account for the departures from distribution patterns that simply mirror the enrollment patterns. According to the 1978 CPS data which these

studies used, tuition tended to be higher for blacks, for elementary schools in the South and West and for high schools in all the regions, and for higher income families. These patterns tend to skew the distribution of benefits toward these categories of families and toward these regions. This is particularly the case at higher levels of a credit.

Previous studies found that varying the characteristics of the credit would affect the distribution of benefits. The major dimensions of a credit are its maximum level, the maximum percentage of tuition costs covered, and the presence or absence of refundability and income ceiling provisions. The benefits of raising the level of the credit would accrue disproportionately to those paying higher tuitions (blacks, parents of high school students, families in the South and West, and upper income families).

The impact of raising the percentage of tuition costs covered depends on the level of the credit. Under lower levels of the credit, raising the percentage of tuition costs covered would have less effect. If the credit were $250 and the percentage covered was raised from 50 percent to 100 percent, it would only affect those paying less than $500 in tuition, which would be relatively few. But if the level were $500, the same increase would affect many more families, because it would increase the credit for any family paying less than $1,000 in tuition. In general, raising the percentage level of coverage while the level of credit remains constant would benefit those paying lower levels of tuition.

Refundability would help those with the lowest levels of income and therefore the lowest tax liabilities. On the other hand, such families tend to have low proportions of children enrolled in private schools and to pay low tuitions when they do opt for private schools. Therefore, refundability would not result in major increases in the cost of a tuition tax credit (unless it produced a major increase in the rate of attendance or the tuitions paid by eligible families). An income ceiling (if at a high level) would have similar effects -- a minor change in the total cost of the credit and a distribution of benefits that would be slightly less advantageous to the affluent.

Two studies (Gemello and Osman, 1981; Noell and Myers, 1982) have used empirical data to examine the extent to which public school parents would move their children to private schools if a tuition tax credit were available. Both examined the elasticity of demand for private education.[1] Gemello and Osman studied the income elasticity of demand, while the Noell and Myers study investigated both price and income elasticity.

[1] Elasticity is a measure of how responsive one variable is to changes in another variable. For example, a price elasticity of demand for private schools of -.25 would mean that for every one percent increase in the cost of private schools, the number of private school students would decline by one quarter of one percent.

Based on 1970 Census data for California school districts, Gemello and Osman estimated income elasticity of demand to be approximately .67 and to be much higher for non-church than for church-related private schools. This estimate is consistent with the observation that the effect of tuition tax credits on private school enrollments due to an income effect would be minor because the increase in income would be so small for most families. However, to the extent there is an income effect, it would be greatest in the lowest income groups (especially if the credit were refundable), because a given level of credit would constitute a higher percentage of income for those with lower incomes.

Two major drawbacks to the Gemello and Osman study were the use of 1970 Census data, which may be quite dated, and the unit of analysis, which was geographic areas -- States, school districts and census units -- rather than individuals. Neither of these limitations apply to the Noell and Myers study. Their data base was the October 1979 Current Population Survey (CPS) and the unit of analysis was pupils. However, there are limitations in this data base which should be noted. One is that the CPS estimate of numbers of private school students is considerably below those of the National Center for Education Statistics. A second concerns the data on private school tuitions, which show a rather high proportion of children with no tuition costs. A third is major differences between the 1978 and 1979 CPS surveys pertaining to relationships between tuition costs and family characteristics. The most noticeable concerns race: the 1978 survey indicated blacks paid higher tuitions than whites but no such pattern appeared in the 1979 data. A final limitation was noted in Chapter 1. The CPS data tend to underestimate family income.

The estimates of income elasticity by Noell and Myers were not very different than Gemello and Osman's and showed the same patterns -- higher elasticities for non-church-related schools and for nonwhites (who generally have lower incomes). They estimated price elasticity (at the mean) at -.42 for church-related schools and found that it was much higher for children in low-income than in high-income families. On the other hand, the price elasticity for non-church-related schools was essentially zero.

Using only price elasticity to estimate switches to private schools with a tuition tax credit of $250 covering up to 50 percent of tuition, they suggested there would be a net increase in private school enrollment of 16 percent (which would mean that less than 2 percent of public school parents would switch their children to private schools) and all the increase would be in church-affiliated schools. However, the authors noted that this was a maximum estimate of switching to private schools, because it implicitly assumes an infinitely elastic supply of schools and no increases in tuition. To the extent that the supply of private schools would be somewhat inelastic, prices would rise and the shift to

private schools would be less. If the supply were totally inelastic, prices would increase equal to the amount of the credit and there would be no increase in private school enrollment. The Treasury Department used the Noell-Myers results in deriving cost estimates for the President's 1983 tuition tax credit proposal (Office of Management and Budget, 1983).

Longanecker's (1981) hypothetical scenario in which enrollments were highly sensitive to tuition prices produced a much higher estimate of public school transfers. However, Longanecker concluded that "tuition tax credits would not likely lead to appreciable increases in nonpublic school enrollments but might lead to significant increases in tuition (p. 23)."

Two polls have asked questions related to tax credits. The 1982 Gallup poll on attitudes toward public schools asked public school parents whether they would prefer to send their eldest child to a public or private school if private schools were tuition-free. The responses to that item (in May 1982, based on personal interviews in the home) were 45 percent choosing private schools, 47 percent public schools and 8 percent "don't know" (Gallup, 1982). A Gallup poll conducted for Newsweek found that 23 percent of public school parents would be likely to switch to private schools with a tax credit of $250 to $500 (Williams, 1981).

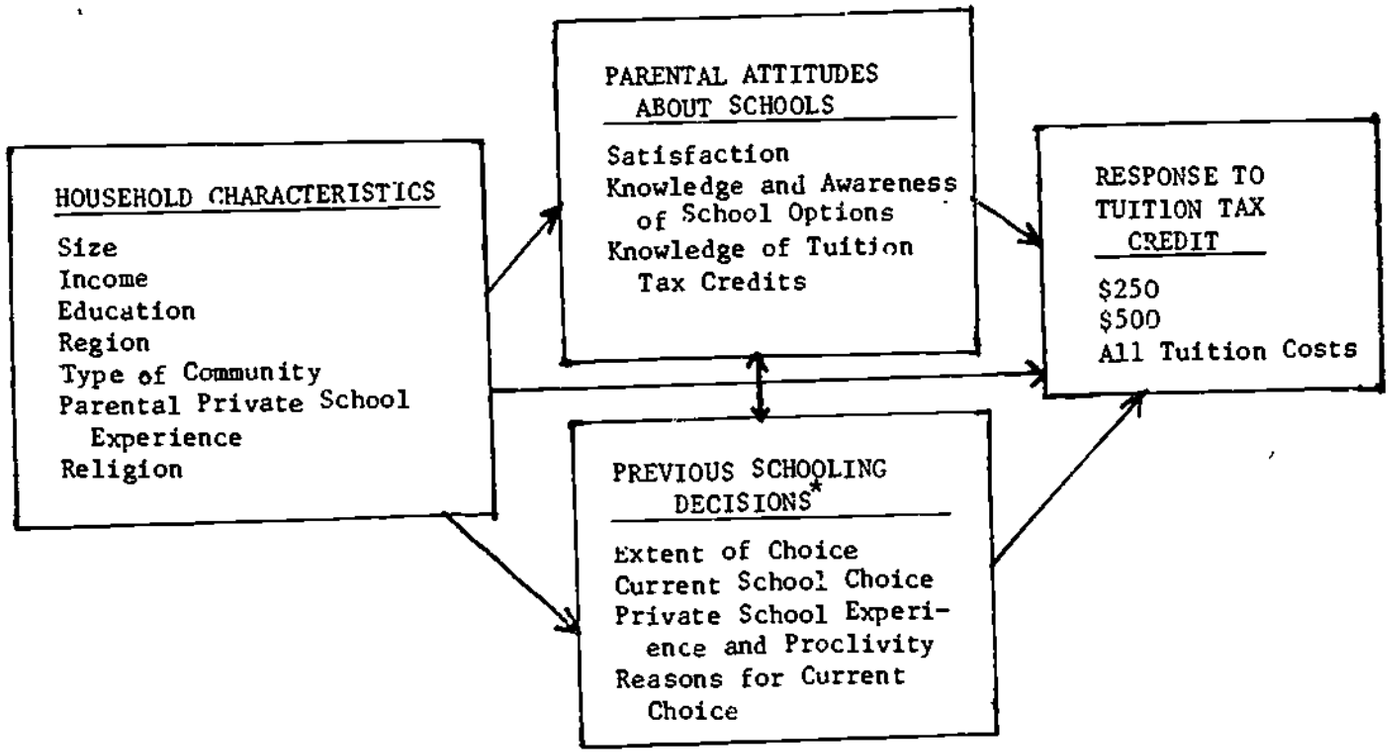
Both the Gemello and Osman (1981) and Noell and Myers (1982) studies indicated that low-income families would be more responsive to a tuition tax credit, and Longanecker suggested a similar pattern. The two empirical studies of demand elasticity both found that income elasticity was much higher for independent schools.

Framework for Analyses of Tuition Tax Credits

The major research questions about tuition tax credits which the survey was designed to answer were what children might change schools under a credit, why would they be transferred, how would potential responses to a credit be affected by the nature of the credit, and what might the implications be for both public and private schools. These questions and the previous research on tax credits shaped the design of the survey and the analysis of results. The same general model was used to analyze responses to the tuition tax credit items as for current choice (Figure 3-1). Parents were asked about possible responses to several levels of credit in order to investigate how the nature of the credit might affect preferences. Several items were included in the survey to facilitate the assessment of the validity of responses about tax credits and the likelihood that parents would implement their expressed preferences. These included items about familiarity with tuition tax credits prior to the survey and the availability of private schools in the area.

Figure 3-1

Components of the Model of
Response to a Tuition Tax Credit



* Including the current choice of schools.

Parents were asked whether they would consider changing their child's school placement if there were a Federal tuition tax credit at three different levels: $250, $500, and all tuition costs. These levels were chosen to reflect previous proposals about tax credits as well as the 1982 Administration proposal. For children in grades 1-12, the 1983 Administration proposal provides a tax credit of $300 when fully phased-in, a 50 percent limit on the tuition costs covered by the credit, and an income ceiling of $40,000 for the full credit, with proportional reductions in the credits for families with incomes between $40,000 and $60,000. The survey instrument did not include questions about percentage limits on tuition costs or on income ceilings because it was assumed that this type of questioning was too complicated for easy comprehension in a short telephone survey. (Other surveys on tuition tax credits have made the same assumptions.)

The questions on tuition tax credits asked respondents whether they would be "very likely," "somewhat likely," "somewhat unlikely," or "very unlikely" to change their child's school if a tax credit were available. Most of the discussion of preferences presented here is for parents of children in public schools who said they would be "very likely" or "somewhat likely" to transfer their child to a private school if a tuition tax credit were available. In addition, there is some discussion of the parents with children in private schools who said they might transfer their child to another private school in response to a tax credit. Parents who said they would be "very likely" or "somewhat likely" to switch schools were asked what type of school (Catholic, other religiously-affiliated, or independent) they would transfer their child to, and the most important factors they would consider in choosing the new school.

The initial questions about tax credits in the interview schedule dealt with a credit of $250, and then successive credits of $500 and credits equal to all tuition costs were introduced. Not all respondents were asked about credits at the two higher levels. It was assumed that parents who indicated they would be apt to switch their child to another school at one level of credit would be apt to do so at higher credit levels as well. Consequently, those parents who indicated they would be "very likely" or "somewhat likely" to transfer their child to another school at a $250 credit were not asked about their response to credits for $500 and all tuition costs.

This decision was made to reduce the length of the interview, but it also had consequences for the way in which the analysis could be conducted. It was not possible to analyze those who would be "very likely" to transfer their child for any credit level beyond $250. A parent who said they would be "somewhat likely" to transfer their child at $250 might have said they would be "very likely" to do so at one or both of the credit levels above $250, but they were not given the opportunity to do so. To facilitate

comparison of preferences across the three credit levels, the responses to the tax credit items are collapsed into two categories in most of the tables in this chapter. The "very likely" and "somewhat likely" categories are combined as are the "somewhat unlikely" and "very unlikely" categories. Other reasons for combining the categories in this way is the similarity in the patterns for the "very likely" and "somewhat likely" categories and also to increase the sample size (and therefore the reliability of the findings) for those indicating they might change their school choice under a tax credit. In the text, when reference is made to parents who are "likely" to transfer their child, this refers to the combined responses of the "very likely" and "somewhat likely" categories.

The first part of the chapter will discuss how knowledgeable respondents were about a tuition tax credit prior to the survey. The next section will discuss the characteristics of respondents who indicated the greatest interest in changing schools in response to a credit, factors associated with switching, differences in switching patterns at higher credit levels and differences between public and private school respondents. Most of the analysis will focus on switching at a $250 credit.

Knowledge of Tax Credits

Approximately 55 percent of the respondents had heard of a tuition tax credit before, but private school parents were far more likely to be aware of the credit than public school parents. This pattern held consistently across all racial, religious, educational, and income groups and also across region and place of residence (Table 3-1). Among public school parents, whites, those living in the suburbs, and those with higher incomes and more education were more likely to have heard of tuition tax credits. Similar patterns for race and status appeared for private school parents, but the differences among groups were generally much smaller. There was no significant relationship between prior knowledge of a tuition tax credit and region or religion.

Awareness of tuition tax credits was also higher among public school parents who had greater contact with or knowledge about private schools or who had given some thought to the choice of their child's current school. For example, nearly three fifths of those who said private schools were available in their community had heard of tuition tax credits, compared with two fifths of those who said they were not available. Others more likely to have heard of tuition tax credits included parents who could estimate tuition costs at one or more types of private schools, those who had had at least one child in a private school and those who had considered sending the child to a private school in the past.

Propensity to Switch Schools under a Tax Credit

Parents were asked how likely they would be to change their child's school under a tax credit. Over half the parents indicated they probably would not switch their child

Table 3-1

Knowledge of Tuition Tax Credits among
Public and Private School Parents

	Percent of Respondents Who Have Heard of Tuition Tax Credits	
	Public School	Private School
Total Sample	50.5% (N = 1749)	84.7% (N = 235)
Race		
White	56.9% (N = 1309)	85.8% (N = 194)
Black	36.5 (N = 266)	78.0 (N = 30)
Hispanic	18.5 (N = 130)	*
Other	36.6 (N = 36)	*
Religion		
Protestant	51.4% (N = 1010)	84.9% (N = 90)
Catholic	50.2 (N = 446)	84.2 (N = 111)
Other	42.3 (N = 178)	*
None	58.3 (N = 96)	*
Parent's Education		
Non-High School Graduate	22.0% (N = 326)	*
High School Graduate	43.3 (N = 794)	78.4 (N = 56)
Some College	66.3 (N = 325)	87.7 (N = 69)
College Graduate	82.4 (N = 171)	89.0 (N = 45)
Post-Graduate	83.8 (N = 118)	96.7 (N = 46)
Family Income		
Under $7,500	27.6% (N = 172)	*
$7,500 - $14,999	33.9 (N = 301)	*
$15,000 - $24,999	48.7 (N = 446)	71.4 (N = 49)
$25,000 - $49,999	64.6 (N = 615)	92.2 (N = 116)
$50,000 and over	68.9 (N = 112)	85.2 (N = 37)
Region		
Northeast	54.6% (N = 205)	*
North Central	51.9 (N = 504)	86.7% (N = 75)
South	50.4 (N = 733)	91.3 (N = 92)
West	46.1 (N = 294)	74.4 (N = 39)
Place of Residence		
Large City	33.6% (N = 360)	81.7% (N = 68)
Suburb	70.6 (N = 267)	91.7 (N = 42)
Medium City	48.5 (N = 357)	81.4 (N = 62)
Small City or Town	53.9 (N = 522)	85.4 (N = 51)
Rural	50.2 (N = 236)	*

*Less than 30 cases.

out of public schools even if all tuition costs were covered (Table 3-2). Of those who did express some inclination to transfer their child to a private school, more than half said they would do so at the lowest of the three credit levels. Doubling the level of the credit increased the number of parents expressing an interest in taking advantage of it by less than 50 percent. For a variety of reasons, which will be discussed at length in Chapter 4, those responses probably greatly overestimate the number of parents who would actually transfer their child under a tax credit. At each level of the credit, fewer respondents said they would be "very likely" than "somewhat likely" to switch. At $250, only 9.2 percent said they would be "very likely" to switch as compared to 14.3 percent who would be "somewhat likely."

Public school parents who said they were inclined to switch to private schools under a $250 credit were disproportionately black or Hispanic, had less education and lower incomes, and were residents of large or medium cities. Those with other or Catholic religious affiliations were slightly more prone to express an inclination to switch to private schools than respondents who were Protestant or had no religious affiliation. There were no differences in the preferences about a $250 tax credit by region or between parents who had attended public or private schools themselves as children.

Public school parents without prior knowledge of a tuition tax credit were more inclined to say they would switch to a private school under a $250 credit than those who had heard of a tax credit before (Table 3-3). This suggests that, for at least a portion of the sample, the inclination to switch schools as a result of a tax credit may not have been based on a great deal of information. Analysis of responses of a more informed subsample of public school parents, i.e., those who had heard of a tuition tax credit, produced a decline in the proportion of possible transfers among all categories of parents. However, the pattern for the "informed" group resembled that found for the sample as a whole: blacks were more interested in switching than whites, as were parents with less education and lower incomes. There were no significant differences in the proclivity to transfer to private schools related to religion, region or place of residence for the more informed parents.

Responses to higher levels of a tuition tax credit -- $500 and all tuition costs -- generally displayed similar patterns to those at $250 (Table 3-4). Groups with the highest propensity to switch at $250 were also those most inclined to switch at higher credit levels. However, the differences among groups in the propensity to switch were less pronounced at higher credit levels and in some cases were not statistically significant. Black, Hispanic, less-educated, and lower-income parents constituted a smaller proportion of those who would switch at credit levels above $250. For whites and

Table 3-2

Propensity of Public School Parents to Transfer Their Child in Response to Varying Levels of a Tuition Tax Credit

Propensity to Switch	Tuition Tax Credit		
	$250 (N=1687)	$500 (N=1292)[1]	All Tuition Costs (N=1149)[2]
Very Likely	155	26	59
Somewhat Likely	241	119	156
Somewhat Unlikely	202	207	140
Very Unlikely	1089	940	794
Very Likely or Somewhat Likely	23.5%	32.0%[3]	44.6%[3]
Somewhat Unlikely or Very Unlikely	76.5	68.0	55.4

[1]Parents who did not respond "very likely" or "somewhat likely" at $250.

[2]Parents who did not respond "very likely" or "somewhat likely" at $250 and $500.

[3]Cumulative percentages for the entire public school sample (N=1688), representing all who would be "very likely" or "somewhat likely" to switch at that level of a credit or below.

Table 3-3

Public School Parents Responding They Were "Very Likely" or "Somewhat Likely" to Switch Children to Private Schools with a Tax Credit of $250

	Total Public School Sample	Public School Parents Who Have Heard of a Tuition Tax Credit
All Respondents	23.5% (N=1687)	16.8% (N=852)
Race		
White	18.8% (N=1272)	15.8% (N=722)
Black	38.1 (N=251)	22.7 (N=93)
Hispanic	43.6 (N=125)	*
Other	14.9 (N=34)	*
Religion		
Protestant	21.1% (N=980)	16.1% (N=507)
Catholic	27.2 (N=422)	16.8 (N=212)
Other	27.4 (N=174)	18.0 (N=73)
None	23.6 (N=89)	15.8 (N=51)
Parent's Education		
Non-High School Graduate	31.7% (N=308)	26.8% (N=69)
High School Graduate	23.1 (N=764)	17.9 (N=329)
Some College	24.5 (N=312)	18.5 (N=207)
College Graduate	16.8 (N=169)	13.4 (N=138)
Post-Graduate	11.3 (N=119)	5.2 (N=96)
Family Income		
Under $7,500	32.6% (N=161)	27.1% (N=42)
$7,500-$14,999	33.2 (N=288)	29.2 (N=97)
$15,000-$24,999	29.1 (N=419)	22.0 (N=202)
$25,000-$49,999	16.9 (N=614)	13.4 (N=397)
$50,000 and Over	10.6 (N=109)	8.0 (N=75)
Region		
Northeast	21.9% (N=195)	14.2% (N=106)
North Central	21.7 (N=487)	17.1 (N=254)
South	24.4 (N=710)	17.3 (N=359)
West	25.2 (N=284)	17.6 (N=128)
Place of Residence		
Large City	34.7% (N=353)	20.3% (N=113)
Suburb	18.8 (N=256)	15.7 (N=183)
Medium City	28.3 (N=337)	17.0 (N=166)
Small City or Town	19.4 (N=504)	18.3 (N=272)
Rural	14.0 (N=232)	11.5 (N=118)

* Less than 30 cases.

Table 3-4

Inclinations to Switch Schools by Public School Parents under Tuition Tax Credits of Different Levels

	Proportion of Public School Parents Responding "Very Likely" or "Somewhat Likely" to Switch Schools at Different Credit Levels			
	$250	$500*	All Tuition*	Never Switch
All Public School Respondents	23.5%	32.0%	44.6%	55.4% (N=1688)
Race				
White	18.8%	26.8%	39.3%	60.7% (N=1273)
Black	37.9	47.2	61.0	39.0 (N=252)
Hispanic	44.1	53.0	65.2	34.8 (N=124)
Other	14.9	29.8	47.8	52.2 (N=34)
Religion				
Protestant	21.0%	28.8%	41.0%	59.0% (N=982)
Catholic	27.3	35.3	49.0	51.0 (N=421)
Other	27.8	37.7	48.3	51.7 (N=172)
None	22.8	38.6	58.7	41.3 (N=92)
Parent's Education				
Non-High School Grad.	31.8%	39.3%	52.3%	47.7% (N=307)
High School Graduate	23.0	32.9	46.1	53.9 (N=768)
Some College	24.5	31.6	46.3	53.7 (N=311)
College Graduate	17.0	24.2	34.5	65.5 (N=167)
Post Graduate	11.3	19.6	27.9	72.1 (N=120)
Family Income				
Under $7,500	32.0%	43.9%	54.4%	45.6% (N=164)
$7,500-$14,999	32.8	39.0	51.0	49.0 (N=291)
$15,000-$24,999	29.0	37.8	51.7	48.3 (N=421)
$25,000-$49,999	16.8	25.8	39.8	60.2 (N=617)
$50,000 and Over	10.8	21.5	33.3	66.7 (N=106)
Region				
Northeast	22.2%	34.5%	48.6%	51.4% (N=192)
North Central	21.7	28.0	39.8	60.2 (N=489)
South	24.1	33.1	44.7	55.3 (N=717)
West	25.7	34.3	50.9	49.1 (N=279)
Place of Residence				
Large City	34.8%	45.3%	58.8%	41.2% (N=352)
Suburb	19.0	24.5	37.6	62.4 (N=253)
Medium City	28.3	37.2	48.4	51.6 (N=337)
Small City or Town	19.3	30.2	43.9	56.1 (N=508)
Rural	13.9	16.6	28.2	71.8 (N=234)

*The second and third columns reflect cumulative percentages -- the percentage of switchers at $250 plus the additional switchers at $500 plus the additional switchers if all tuition were covered by the credit.

higher status groups, a greater proportion of the switches would occur at credit levels above $250. For example, of those who say they would transfer their child at some level of a tuition tax credit, nearly three fifths of those with incomes below $25,000 would do so at a $250 credit, while approximately two thirds with incomes above $50,000 would do so at a credit above $250. This pattern may indicate that it takes a larger financial incentive to prompt higher status families to change their school placement, or that among parents interested in private schools, those who can afford the cost of tuition have already enrolled their children in private schools.

There were slight variations in the responsiveness of different religious and geographic groups to higher tuition tax credits. Parents with no religious affiliation professed great inclinations to transfer their children if the credit were higher, particularly if all tuition costs were to be covered. As a result, this group had the lowest proportion indicating they would never switch schools under any level of tax credit but a low proportion indicating an interest in transferring with a $250 credit. Parents in the Northeast and West were more inclined to switch initially at levels above $250, particularly if all tuition were covered, than were those in the South and North Central regions. Place of residence followed the same pattern as the race and status variables: among groups with lower propensities to switch i.e., those outside large and medium-size cities, a higher proportion of those who might switch would do so at credit levels above $250.

Factors Associated with Preferences for Switching

Public school parents who were satisfied with their current school choice indicated that they were less likely to switch their child from public to private schools with a $250 tax credit than dissatisfied parents (Table 3-5). Eighteen percent of those very satisfied with the present school were likely to switch, compared with 60 percent who were very dissatisfied. It should be noted, however, that very or somewhat dissatisfied parents made up only 13 percent of all public school parents in the sample.

Greater experience with private schools among public school parents was associated with an inclination to switch to private schools in response to a tuition tax credit. An index of private school "proclivity" was developed which measured a family's experience with and previous interest in private schools (see Appendix F). The proportion of "likely" switchers rose with increased private school proclivity (Table 3-5). Those with the greatest proclivity toward private education were particularly prone to changing their school choice in response to a tax credit, but there were very few parents in this category.

The differences among public school parents with varying levels of knowledge about

Table 3-5

Factors Associated with Inclinations to Switch Schools
under a $250 Tuition Tax Credit for Public School Parents

Factor	"Very Likely" or "Somewhat Likely" to Transfer Child to Private School	"Very Unlikely" or "Somewhat Unlikely" to Transfer Child to Private School
Satisfaction with Current School		
Very satisfied	17.6%	82.4% (N=991)
Somewhat satisfied	26.5	73.5 (N=472)
Somewhat dissatisfied	34.0	66.0 (N=140)
Very dissatisfied	59.5	40.5 (N=77)
Private School "Proclivity"		
None	16.7%	83.3% (N=798)
Low	26.6	73.4 (N=625)
Moderate	33.0	67.0 (N=217)
High	59.7	40.3 (N=31)
Number of Types of Private Schools Provided Estimates of School Costs		
None	16.5%	83.5% (N=561)
One	26.4	73.6 (N=488)
Two	24.9	75.1 (N=304)
Three	28.7	71.4 (N=307)
Considered Other Types of School at Time of Current School Choice		
Yes	41.3%	58.7% (N=302)
No	19.4	80.6 (N=1361)
Cost a Factor in Choosing Current School		
Yes	35.5%	64.5% (N=688)
No	15.2	84.8 (N=999)

private school costs were less extreme, but parents who provided an estimate of school costs in at least one type of private school were at least 50 percent more prone to switch under a $250 tax credit than those who could not estimate costs in any type of private school (Table 3-5). In addition, public school parents who had given some thought to school alternatives in choosing their current school were more than twice as likely to say they might switch from public to private schools with a tuition tax credit than those who had not (Table 3-5). However, consideration of schools as a factor in choosing a place to live was not related to responses to a tuition tax credit.

Public school parents who had mentioned financial factors as an element in their choice of current schools were far more likely to say they would be inclined to switch under a tax credit than those for whom cost was not a factor. This was true for the subsample of public school parents who had heard of a tuition tax credit as well as for the entire sample. These patterns are generally consistent with the findings for current choice of schools (Chapter 2). Financial costs are an important negative factor preventing some parents from sending their children to a private school. Furthermore, public school parents whose prior decisions about an actual or possible school transfer had been influenced by financial considerations were more inclined to take advantage of a tuition tax credit than others.

Choice of School under a Tax Credit

Each type of private school could gain additional students under a tax credit of $250 (Table 3-6). A much higher proportion of these parents expressed a preference for non-Catholic private schools than under current enrollment patterns. This pattern was particularly evident for credit levels above $250 and for independent schools. It would appear that financial considerations have been a particular deterrent to the choice of an independent school.

Reasons given for selecting a private school under a tax credit were quite similar to those given by current private school parents. Academic standards, policies, and courses were the reasons most frequently given for selecting a private school at all levels of tuition tax credits, and the quality of instructional staff was generally the second most important factor. Religion and discipline were also mentioned frequently as factors that would influence the new school choice, but these tended to be mentioned less at credit levels above $250.

Different reasons or combination of reasons were given for the choice of each type of private school. Religious reasons were cited as important in the selection of a non-Catholic parochial school, but were much less important in selecting a Catholic school, and were unrelated to the choice of an independent school. Discipline was most often mentioned in the choice of Catholic schools and least mentioned for independent schools.

Table 3-6

Choice of Private Schools by Public School Parents under a Tuition Tax Credit

New School under Tax Credit	Tuition Tax Credit of: $250 (N=396)[1]	$500 (N=144)[1]	All Tuition (N=215)[1]
Catholic	34.1%	27.1%	29.3%
Other Religious	26.1	28.5	22.8
Independent	29.5	41.7	38.1
Don't Know	10.3	2.8	9.8

[1]The N's represent the additional public school children who would be "very" or "somewhat likely" to be switched to private schools at each level of a tax credit.

Some public school parents cited similar factors as influencing their choice of the current school and a new school under a tuition tax credit, but others did not. This was because certain factors cited as reasons for choosing a public school -- cost, transportation, convenience, location and student assignment -- were rarely mentioned relative to private schools -- either currently or under a tax credit. Those who cited academic factors, the quality of staff, religion, and discipline as influencing the current choice of school also cited such factors as guiding their choice of a private school under a $250 tax credit. On the other hand, parents who listed costs or logistical factors (assignment, transportation, convenience) as the reason for choosing the current public school did not cite such factors as the reason for selecting a private school under a tuition tax credit. Instead they tended to list academic factors as the ones that would influence their new choice.

Multivariate Analysis

A variety of demographic and attitudinal factors were related to inclinations of public school parents to take advantage of a tuition tax credit. In order to assess the relative influence of these factors, a variety of multivariate logistic regressions (using SPSS logit procedures) were analyzed in which the dependent variable was the inclination to respond to a $250 tuition tax credit. Technical constraints limited to seven the number of independent variables that could be examined in a single regression. The seven selected were three demographic variables and four attitudinal factors related to

schools which were strongly related to the dependent variable. The variables and the ways in which they were dichotomized for inclusion in the logit analysis are indicated in Table 3-7.

Causal models were developed for all public school parents and for the subgroup of such parents who said they had heard of a tuition tax credit prior to the household survey. The results of the two analyses were quite similar. Those for the entire public school sample will be discussed first. Model 3-1 presents the best causal model involving the seven independent variables listed in Table 3-7. All seven had a significant direct impact on parental inclinations to take advantage of a tuition tax credit, and except for the city variable, the magnitude of the direct effect of all these variables was rather similar. If a parent lived in a city, had an income under $25,000, was nonwhite, mentioned cost as a factor in current choice, was dissatisfied with the child's current school, had thought about another school when choosing the current one, or had previous interest in or experience with nonpublic schools, it increased the chance that he or she would respond that they would be "very likely" or "somewhat likely" to transfer their child to a private school if a $250 tuition tax credit were available. In addition, all seven had indirect effects on the inclination to switch due to relationships with one to five of the other independent variables in the model.

The causal model (Model 3-2) for the better-informed subsample of public school parents was quite similar to that for the entire sample, but there were some differences. The most significant perhaps was the lack of direct effects for two of the three demographic variables -- city and race -- on the inclination to switch. In part this may reflect the fact that a higher proportion of nonwhites were excluded from the subsample, because they were far more likely than whites not to have heard of a tuition tax credit prior to the survey. The two financial factors in the model -- income and cost -- had a greater impact on the inclination to switch than any of the others. The cost factor had the highest coefficient with the dependent variable among all the independent variables and both it and income were related to most of the other independent variables.

Private School Parents and Tuition Tax Credits

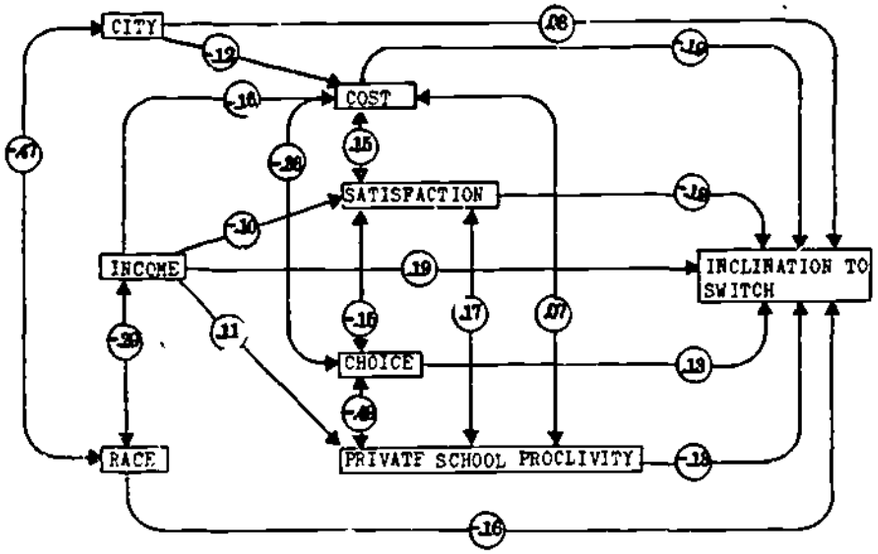
Parents whose children were already attending private schools were less apt to say they might transfer their child to another school in response to a tax credit than public school parents at every level of a credit (Table 3-8). However, those private school parents who expressed such an interest tended to be more intense or certain about that preference; a much higher proportion said they would be "very likely" as opposed to "somewhat likely" to transfer their child than did public school parents. Furthermore, higher levels of a tuition tax credit invoked much less response among private school

Table 3-7
Variables in Logit Analyses of Response to a $250
Tuition Tax Credit by Public School Parents

Variable	Categories
Inclination to switch	Likelihood of transferring child to a private school under a $250 tax credit 1. Very or somewhat likely 2. Very or somewhat unlikely
Cost	Cost a factor in choice of current school 1. No 2. Yes
Satisfaction	Satisfaction with current school 1. Very or somewhat satisfied 2. Very or somewhat dissatisfied
Choice	Consider other schools when child enrolled in current school 1. Yes 2. No
Private school proclivity	Previous ties with or consideration of private schools 1. No 2. Yes
Income	Family income 1. Under $25,000 2. $25,000 or above
Race	Race of respondent 1. White 2. Other
City	Place of residence 1. Large or medium city 2. Suburb, small city or town, rural

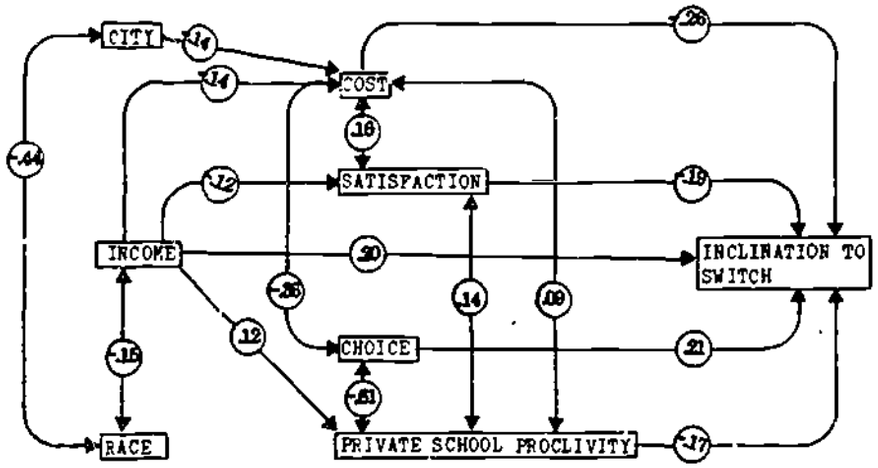
MODEL 3-1

Causal Model for $250 Tuition Tax Credit--
All Public School Parents*



MODEL 3-2

Causal Model for $250 Tuition Tax Credit--
Public School Parents Who had Heard of a Tax Credit Before*



* The coefficients in the models are those from the SPSS-X log-linear procedure. Twice the coefficient is similar to the regression coefficient in an ordinary least-squares equation. All the coefficients are significant at the .05 level.

parents than among those with children in public schools. Most private school parents had heard of a tuition tax credit prior to the survey.

Table 3-8

Propensity of Public and Private School Parents to Respond to a Tuition Tax Credit

	Cumulative Proportion of Children Who Might Be Transferred under a Tuition Tax Credit of:			
	$250	$500	All Tuition	
Public School	23.5%	32.0	44.6	(N=1,688)
Private School	18.8%	22.3	27.8	(N=259)

Private school parents who said they were inclined to respond to a $250 tuition tax credit resembled public school parents who expressed such preferences. They were more likely to be nonwhite, to come from households with income levels below $25,000, to be dissatisfied with their child's current school, and to have no prior knowledge of the concept of a tuition tax credit. However, the differences among population subgroups tended to be smaller among private school parents. For example, although the propensity to switch a child to another school was higher among blacks and Hispanics in both sectors, the differences were not statistically significant among private school parents.

There were also some differences in the patterns for private school parents. Parents in the Northeast expressed the greatest interest in transferring to a new school, while there were no significant differences among parents living in different types of communities. Among public school parents, no significant relationship was found between the type of a school a parent attended and his/her tendency to respond to a tuition tax credit of $250 by changing the child's current school placement. Among private school parents, however, those who had attended public or both public and private school were more inclined to switch than those who had only attended private schools. Perhaps surprisingly, the income group among private school parents which was most inclined to transfer their child was those in the $15,000 to $25,000 range; education did not show a consistent relationship with propensity to switch for private school children.

Few respondents with children in private schools cited cost as a reason for selecting their child's present school, and there was little tendency for these parents to

be more responsive to a tuition tax credit than those who had not. Similarly, the financial burden and cost of the current private school were generally unrelated to the inclination to switch. The one execption was that those paying less than $1,000 in private school costs were more interested in a $250 tuition tax credit than those paying more. The extent of the present financial burden of a private school or previous consideration of switching to public school because of the cost were also unrelated to the propensity to take advantage of a tuition tax credit. These patterns are consistent with those for current choice: financial considerations are an important negative factor preventing some parents from sending their children to a private school, but they do not appear to be a major factor or burden for those already committed to a private education.

Private school parents who said they would be inclined to transfer their child to another private school generally indicated they would choose another school of the same type the child was presently attending. Those children now in Catholic schools would be moved to another, but presumably more expensive, Catholic school. That transfer pattern is further evidence for the inference that each type of private school tends to have a separate constituency.

Nearly three fifths of all parents in the survey indicated they would be unlikely to change their child's school placement at any level of a tuition tax credit, with private school parents more inclined to continue the current placement (Table 3-8). Approximately half of these parents identified the following reasons for the inclination not to change schools: satisfaction with current school or availability of programs or facilities in the present school they could not obtain elsewhere.

Public and private school parents differed in the reasons given for not switching. Private school parents were more likely to cite satisfaction with their child's current placement. (The greater satisfaction with private schools may account for the lower inclination to take advantage of a tuition tax credit.) In particular, parents with children in church-related schools mentioned the availability of religious instruction. Public school parents were more apt to mention logistical reasons - - transportation, no private school available, or no income tax liability - - or the child's preference for the current school. Public school parents also gave philosophical reasons for not changing their current school choice - - a belief in the public schools or opposition to a tuition tax credit.

Conclusion

The inclinations of survey respondents to take advantage of a tuition tax credit were affected by a variety of factors. These included the level of the credit, household

characteristics, and attitudes related to school choice. At higher levels of a credit, the proportion of parents who said they might take advantage of it, particularly among public school parents, rose. Furthermore, some groups now underrepresented in private schools -- low income and minority groups -- expressed the greatest interest in using tax credits, although that tendency was not quite as strong at credit levels above $250 as it was at $250.

The attitudinal factors associated with the likelihood of transferring schools and with the selection of a new school under a tax credit have much in common with those associated with the choice of current schools. This is particularly true regarding the role of cost considerations and reasons given for choosing the private school to which a child would be transferred under a credit. The response model as initially conceptualized indicated two types of attitudinal variables -- previous decisions about school choice and attitudes toward schools. Both had a significant impact on parental reactions to a tuition tax credit. The extent of choice, cost as a reason for choice, and private school "proclivity" are related to the process of making prior decisions about schools, while satisfaction is an attitude toward the current school. The attitudinal factors appeared to have as great or greater impact as household characteristics on responses to a tuition tax credit, especially for those who had heard of tuition tax credits before.

The level of interest in tax credits among survey respondents was quite similar to results obtained from other polls. The responses to the 1982 Gallup poll question about choice of a private school if it were tuition-free (Gallup, 1982) were very similar to replies in the household survey to the question about a tuition tax credit that would encompass all tuition costs -- 45 and 44 percent choosing private schools respectively. Furthermore, the Gallup poll conducted for Newsweek (Williams, 1982) found that 23 percent of public school parents would be "very likely" or "fairly likely" to switch to private schools with a tax credit of $250 to $500, while the household survey found that 23.5 percent said they would be "very likely" or "somewhat likely" to switch their children to private schools under a $250 credit.

The household survey indicates much greater interest in switching schools in response to a credit than previous cross-sectional studies. The Gemello and Osman estimates of income elasticity applied to the household survey data would produce an estimate of very few transfers (.01 percent) from public schools under a $250 tuition tax credit with no percentage limit. Noell and Myers (1982) estimated that less than 2 percent of public school parents would switch in response to a $250 credit covering 50 percent of tuition.

In other respects, the survey findings are consistent with those from cross-sectional

research. Both the Gemello and Osman (1981) and Noell and Myers (1982) studies suggest that low-income families would be more responsive to a tuition tax credit. The survey responses followed this pattern, but it was strongest at the lowest level of credit, which might not have been expected. The two empirical studies of demand elasticity both estimated income elasticity to be much higher for independent schools than church-related schools. On the other hand, Noell and Myers estimated price elasticity, which is likely to be far more important than income elasticity, for independent schools as zero. The survey responses that suggest interest in independent schools are consistent with the income elasticity estimates, but not those for price elasticity.

The survey revealed large differences in parents' prior awareness of tuition tax credits. Furthermore, those previously uninformed about tax credits expressed much more interest in taking advantage of a credit than those who were at least slightly better informed. This fact will be one of the major issues addressed in Chapter 4, which discusses how the survey results can be interpreted with respect to their implications for schools and public policy.

Chapter 4

IMPLICATIONS OF THE SURVEY RESULTS

Using survey responses to predict future behavior is often problematic, and there are several reasons why that could be the case with regard to the tuition tax credit portion of the household survey. For a variety of reasons, preferences about tuition tax credits expressed in the survey probably overestimate the extent to which children would actually change schools if a tax credit were implemented. In this chapter, the general problem of using survey data to predict behavior is discussed first; this is followed by a discussion of reasons why the extent of actual school transfers under a tuition tax credit may be less than the potential for such transfers revealed in the survey.

Preferences and Behavior

Surveys often ask people how they would react to a hypothetical situation at some future time. This is the essence of both market research and polling for political candidates. The issue for the user of such surveys is the probability that the respondent will actually behave in the way indicated by the survey responses.

There are at least two dimensions to the problem of predicting behavior from preferences expressed in a survey situation. One is the tenuous link between attitudes and actions (Schuman, 1972). How a person will act in a given situation is a function of the contextual factors that exist at that time and place as well as numerous, not necessarily consistent, attitudes. Thus the response to a single hypothetical survey item, divorced from the complexity of the actual situation a person would face, may not be a particularly good indicator of eventual behavior. Furthermore, a person's response may reflect erroneous or unrealistic perceptions of the actual future context.

A second problem is that some responses may represent "non-attitudes" (Converse, 1966). In surveys people are often asked questions on issues or situations about which they have never thought before or have very little information. Consequently, the responses are often not reliable. In such situations some respondents may say they have no opinion, while others will provide a response, but it may be superficial and might change considerably if the person were asked the same question a month later.

These general considerations suggest that the responses of some parents about their reactions to a tuition tax may be a poor indicator of how they actually would behave. A variety of factors suggest that many fewer parents would transfer their children from public schools to private schools than said they would do so in the survey. The process of transferring a child from a public to private school in response to a tuition tax credit would involve four steps: (1) interest in taking advantage of the credit, (2) application to

one or more private schools, (3) admission to at least one private school, and (4) enrollment in a private school. The survey provides information about the first step in the process, i.e. the nature of the pool of potential new applicants to private schools. The reasons why parents may drop out between steps 1 and 4 can be subsumed under two broad headings related to the demand for and supply of private schools under a tuition tax credit.

Demand for Private Schools

Concern about non-attitudes is particularly germane in the analysis of the tuition tax credit responses since nearly half the sample (45 percent) had never heard of a tuition tax credit before. Even among the half who had heard, some undoubtedly knew very little about how a credit would operate. Parents who had not heard of a credit expressed an interest in moving their child to a different school far more frequently than those who had heard of a credit (Table 4-3). This was true for both public and private school parents.

A common pattern in referenda campaigns is that support for an issue falls during the campaign. Such a pattern has been found in campaigns for tax changes, tax and expenditure limitations, and a voucher proposal in Michigan (Williams, 1982). People appear to respond favorably to a proposal early in the campaign, but then as more is learned about the issue and its possible ramifications, initial enthusiasm cools and many initial supporters may eventually oppose it. This pattern was apparent in the District of Columbia in 1981 when a tuition tax credit measure was on the ballot. Early polls showed substantial support for the proposal, but the final outcome was an overwhelming defeat. A similar phenomenon might occur with respect to those who had not heard of a tuition tax credit before. Once they learned more about the workings of such a tax credit, their enthusiasm might dim and their responses to a credit might resemble more closely those of people who had previously heard of a tuition tax credit.

If all parents were to respond in the same way as those who had heard of a tuition tax credit before, the proportion of potential new private school applicants would decline from 23.5 to 16.8 percent. However, that may overstate the impact of wider knowledge. Those who had not heard of a tuition tax credit were disproportionately less affluent and nonwhite, and among those who had heard of credits before, such parents tended to be more responsive to a credit. Taking race or income into account yields estimates of the pool of potential new private school applicants of approximately 18-19 percent of public school students.

The probability that respondents would implement their preferences is apt to be a function of the intensity of their preferences. Those with stronger preferences might be

more prone to act on their preference and to persist in the face of difficulties than those with weaker preferences. In the household survey, the intensity or level of interest was assessed by asking parents whether they were "very likely," "somewhat likely," "somewhat unlikely," or "very unlikely" to transfer their child to a different school if a tuition tax credit were available. More than 23 percent of public school parents said they were "very likely" or "somewhat likely" to move their child, but only 9 percent said they would be "very likely" to do so. On the other hand, private school parents with an interest in taking advantage of a tuition tax credit were relatively more intense in those preferences; more said they were "very likely" to switch (12.8 percent) than "somewhat likely" (5.9 percent).

One reason that the survey may overstate the demand for private schools under a credit is the wording of the questions about tuition tax credits. Most tuition tax credit proposals contain not only a dollar limit but also a percentage ceiling on the proportion of tuition costs covered. This limits the benefit of the credit to families sending their children to low-tuition schools. With a percentage limitation, fewer families might transfer their children than under a credit of the same dollar limit without a percentage limit. For the sake of clarity and simplicity, however, only a dollar maximum was posed in the tuition tax credit questions in the survey. There is no way of determining from the survey that would not be arbitrary the extent to which the proportion of parents interested in taking advantage of a credit would be reduced by limiting the percentage of eligible tuition costs.

In addition, the responses of public school parents may be based on unrealistic assumptions about private schools, particularly about their costs. Fully one third of the public school parents could not give even a rough estimate of tuition costs for any of the three types of private schools in their community. Furthermore, some of the tuition estimates that were provided were inaccurate. Once a credit was in operation, parents might decide that an acceptable private school was not convenient or affordable, even with the tuition tax credit. Consider for example, those public school parents in the survey who indicated that they had seriously considered sending their child to a private school at some point. More than half (Table 2-6) said the reason they had not transferred the child was cost. Another frequently mentioned reason was transportation. Similar factors may deter parents from implementing their expressed preferences with regard to a tuition tax credit.

The strong similarities between some aspects of current choice and the hypothetical patterns for tuition tax credits suggest that the preferences expressed were not "non-attitudes" for many parents. The similarities are particular evident relative to

the attitudinal factors associated with a preference to switch under a tax credit. Parents who would be expected to be more responsive to a tuition tax credit, i.e., public school parents who mentioned cost as a factor in the selection of the current school, parents who had considered private schools in the past, and those with greater prior knowledge or contact with private schools, were more inclined to take advantage of a credit. Furthermore, the reasons given for choosing each type of private school under a tuition tax credit paralleled those cited in connection with the current (actual) choice of such schools.

Supply of Private School Places

People appeared to respond to the questions about tuition tax credits as if the supply of private schools were infinitely elastic, i.e., that tuition costs would not rise at all as the result of the implementation of a credit, and that there would be enough seats in private schools in appropriate locations to accommodate all who would want to apply. Neither is a realistic assumption. If the supply of private school places is less than perfectly elastic, some of the demand stimulated by the tax credit would go unsatisfied and there would be less of an increase in private school enrollments. There might also be an increase in private school tuitions. The extreme case would be if the supply were totally inelastic, in which case private school enrollments would not rise at all. (However, the particular children in private schools could change. For example, if tuitions rose sharply and/or admission standards were tightened, some children currently in private schools might leave the private sector to be replaced by children presently attending public schools.)

Some insight into the supply issue can be gained from the survey. Public school parents were asked early in the interview whether there were private schools serving their child's grade in their community or nearby. If it is assumed that only parents of public school children who said there were private schools available would be able to implement their preference to switch, the proportion of public school parents "very likely" to switch would drop from 9.2 to 6.5 percent and the proportion "very likely" or "somewhat likely" would drop from 23.5 to 15.4 percent.

Several supply factors suggest the extent of switching that would actually take place, particularly in the short run, would be limited. These supply considerations include: (1) possible price responses on the part of private schools (which might be restrained by ceilings on the level or proportion of tuition covered by the credit) and (2) the availability of a place in an appropriate private school for the child in question. Even where a private school exists in an area, it could already be operating at capacity, the child might not qualify for admission, or it might not be the type of school desired by the

parent. (Such considerations were frequently mentioned as past reasons for not transferring a child to a private school. See Table 2-8.)

Private schools may not be able to absorb large numbers of new students in the short run. In the first year, private schools might be able to accommodate a modest increase in enrollments through small-scale expansion in existing schools to accommodate new demand, e.g., by filling seats that are currently empty, enlarging class sizes, and converting other space to classrooms. However, further expansion might come slowly, as the result of building programs, acquisition of additional factilities (such as closed public schools), or establishment of new schools. Such efforts would require substantial capital investment, which might be difficult to finance.

Furthermore, private schools may not be interested in expanding sufficiently to accommodate all the potential increase in demand. Some schools may prize their relatively small size, seeing the resulting intimacy among parents, students, and staff as an advantage. In addition, by creating a waiting list or "pent-up demand," they might be able to raise admission standards, increase tuitions, or both.

The recent history of private school enrollments is one of modest fluctuations. Even in the States with the greatest increases in private school enrollments in the 1970s, annual rates of growth have been less than five percent. Therefore, a national increase in private school enrollments of five percent in a single year would be unlikely given the probable supply contraints. Even that would only constitute an annual shift of public school students into the private sector of six-tenths of one percent.

On the other hand, there are several considerations which suggest that some parents who did not indicate an interest in taking advantage of a tuition tax credit in the next school year might be interested at some point in the future. The first concerns the finding in the survey and in previous research that transfers from public to private schools tend to occur most frequently in grades that mark transition points in a child's school career, i.e., the beginning of elementary, middle or high school. Therefore, there may be some parents who said they would not be inclined to move their child next year, but who might be when the child reached one of those transition points (including children not yet in school who might be entered in private schools in kindergarten or first grade). Furthermore, a tuition tax credit might deter transfers from private to public schools in the higher grades where tuition is higher. Another reason that might lead to future interest in taking advantage of a tuition tax credit is satisfaction with the public schools. Parents currently satisfied with their child's public school could become dissatisfied in the future; the survey found dissatisfied parents to be more inclined to use a tuition tax credit. For example, the cluster of unfavorable reports about the current

state of public schools in the first half of 1983 could be a spur for some parents to consider transferring their child to a private school. On the other hand, if current initiatives are perceived as leading to improvements in the public schools, satisfaction could increase.

The Pool of Potential New Applicants to Private Schools

Some notion of the extent to which the number of public school children who might be transferred to private schools in response to a tuition tax credit would differ from the preferences expressed in the survey can be obtained using other items in the survey. It has already been indicated how taking account separately of certain demand conditions (knowledge of a tuition tax credit and intensity of preference) and supply conditions (availability of a private school) produces much lower proportions of public school parents who might transfer their children to private schools. If more than one of these conditions is taken into account at a time, the proportion of potential public school transfers declines even further (Table 4-1). Taking intensity of preferences, knowledge of a tax credit, and availability of private schools into consideration simultaneously suggests that less than five percent of all public school children might be possible new applicants to the private school sector under a $250 tuition tax credit. Furthermore, this is still apt to be an overestimate because it does not adequately capture the possible supply constraints and include the effect of a percentage limit on eligible tuition costs.

All three conditions reduce the pool of potential transfers under a tax credit, but the magnitude of the decrease varies between public and private school students and with the particular conditions in effect. For public school students, two conditions -- the availability of private schools (supply) and prior awareness of tuition tax credits (demand) -- depress the proportion of possible transfers by similar amounts, while the cumulative effect of the two in combination is not much greater than either one singly. (The same pattern holds for private school students with one exception.) The intensity condition -- which amounts to assuming that only parents who said they would be "very likely" to switch their child would be apt to do so -- has a substantial impact regardless of the other conditions in force, and is much greater than the effects of the other two conditions.

The proportion of parents who might take advantage of a $250 tuition tax credit is more sensitive to these three conditions for public than private school parents. This is particularly true of the intensity condition. A higher proportion of public than private school parents would be "very likely" or "somewhat likely" to switch their children with a $250 credit under all conditions, while the reverse is true for the "very likely" response. In addition, the other two conditions reduce the pool of potential transfers less (both

TABLE 4-1

Impact of Demand and Supply Conditions on
Proportions of Children Who Might Be Transferred
under a $250 Tuition Tax Credit

Modifying Conditions*	Total Sample		Public School***		Private School***	
	Very Likely	Very or Somewhat Likely	Very Likely	Very or Somewhat Likely	Very Likely	Very or Somewhat Likely
1. None	9.7% (N=1947)	22.8%	9.2% (N=1687)	23.5%	12.8% (N=260)	18.6%
2. Heard of a Tuition Tax Credit	6.2 (N=1060)	16.2	5.6 (N=852)	16.8	8.6 (N=207)	14.0
3. Private School Available**	6.5** (N=1921)	15.3	5.9** (N=1661)	15.4	10.1 (N=260)	14.9
4. Heard of Tax Credit and Private School Available**	5.2** (N=1056)	12.7	4.7** (N=848)	12.8	7.6 (N=207)	12.2

* The N's for the different sets of conditions vary for two reasons. The number of respondents providing usable answers differs across variables. Percentages for Conditions 2 and 4 are based on those respondents who replied they had heard of a tuition tax credit prior to the household survey.

** Under Conditions 3 and 4, public school respondents who said they were "very" or "somewhat likely" to switch but that no private school was available serving the appropriate grade were classified as being unlikely to move their child. The N's for the "very likely" category are slightly higher under conditions 3 and 4 (12 and 8 respectively) than listed in the table for public school parents and the total sample.

*** For the purposes of this table, children were classified on the basis of the type of school the parent said the child would attend in the 1982-83 school year.

absolutely and proportionately) for private school students than for those in public schools. This may reflect the fact that private school parents as a whole were better informed about private schools; their responses to the survey may be a better indication of how they would actually behave under a tax credit than those of public school parents.

The three conditions also would have an effect on the characteristics of the pool of potential new applicants to the private school sector. It was pointed out in Chapter 3 that higher proportions of nonwhite and less affluent parents had not heard of a tuition tax credit and said they would be inclined to change their child's school under a tax credit (especially one of $250). The pool of potential switchers is considerably more white but not more affluent when knowledge of a tuition tax credit is taken into account (Table 4-2). The intensity condition yields a pool of new applicants which is less white and less affluent, while the availability condition has a weaker but opposite effect. The availability condition may have a smaller impact because private school availability tends to be higher in large cities where the proportions of lower status and nonwhite respondents are higher. Blacks were more intense in their inclination to switch than whites, which is why the proportion of blacks is much higher under the intensity condition. The knowledge condition reduced the proportion of potential new nonwhite applicants because the decline in interest between the entire sample and knowledgeable parents was much greater for blacks than for whites (Table 3-3).

Imposing the three conditions may reveal a more accurate picture of parents apt to respond to a $250 tuition tax credit. When all three are in effect, the group of potential public school transferees is skewed further in the direction low-income children than is the case without the conditions (Table 4-3). That group is considerably less affluent and more nonwhite than either public or private school students as a group.

The responses to the household survey indicate widespread interest in a tuition tax credit among both public and private school parents. However, because of the limitations of preference surveys, it is not possible to arrive at precise behavioral estimates of how many children would actually leave the public schools as the result of a tax credit. Constraints on the expansion of private school places based on supply considerations have been identified above, but there is little empirical evidence about the amount of space currently available in private schools or about the ability or desire of private schools to expand their enrollments. Based on the survey responses, however, it does not appear that one of the greatest fears of opponents of tax credits -- the exodus of more privileged children from the public schools -- would be realized. Instead, groups now underrepresented in private schools, those from minority and lower-income families, exhibit average to above average inclinations to respond to a tax credit.

TABLE 4-2

Impact of Demand and Supply Conditions on the Potential Pool of New Applicants to Private Schools under a $250 Tuition Tax Credit

Pool of Potential New Private School Applicants	Modifying Conditions: None	Knowledge of Tax Credits*	Availability of Private School	Intensity of Preference
Race	(N=394)	(N=302)	(N=254)	(N=153)
White	60.6%	67.6%	64.1%	52.0%
Nonwhite	39.4	32.4	35.9	48.0
Household Income	(N=385)	(N=317)	(N=250)	(N=147)
Under $7,500	13.6%	14.3%	10.0%	14.1%
$7,500-14,999	24.8	27.2	24.4	35.0
$14,999-24,999	31.7	29.8	30.4	36.7
$25,000 and Over	29.9	28.7	35.2	14.3

* Calculated using the assumption that all parents will have the same preferences as those with similar characteristics who had heard of a tax credit prior to the household survey.

TABLE 4-3

Comparison of Pool of Potential New Private School Applicants with Current Private and Public School Students

Characteristics	Potential New Applicants to Private Schools under a $250 Tuition Tax Credit		School Child Would Attend without a Tax Credit	
	No Modifying Conditions	All Three Modifying Conditions*	Public	Private
Race	(N=394)	(N=87)	(N=1715)	(N=268)
White	60.6%	59.6%	75.3%	80.5%
Nonwhite	39.4	40.4	24.7	19.5
Household Income	(N=385)	(N=95)	(N=1622)	(N=254)
Under $15,000	38.4%	49.4%	28.5%	14.5%
$15,000-24,999	31.7	32.2	26.4	24.6
$25,000 and over	29.9	18.5	45.0	60.9

* Calculated using the assumption that all parents will have the same preferences as those with similar characteristics who had heard of a tax credit prior to the household survey.

Conclusions

The household survey provides information about the possible effect of a tuition tax credit on three groups: public schools, private schools, and families.

Public schools could lose students to private schools under a tuition tax credit. However, the survey responses probably overstate the number of children who would actually transfer to private schools. The parents in the survey may have had unrealistic expectations about both the cost and availability of private school options, which would become apparent when they tried to implement their preference to switch under a tax credit. Experience with other types of financial aid plans seems to suggest that any expansion in the supply of schools is likely to occur, if at all, only in the long run (School Finance Project, 1983).

Private school enrollments in grades 1-12 could increase substantially and become more representative. This potential increase in private school enrollments suggests the importance of supply considerations in determining what would actually happen should a tax credit be adopted. It is highly improbable that the private school sector could accommodate a large influx of students, certainly in the short run and perhaps in the long run as well. A large unmet demand may provide an opportunity for existing private schools to increase their tuitions and become more selective in their admission policies.

Supply limitations could be particularly severe in the independent school sector, where the rate of growth in demand could be greatest. Tuitions tend to be much higher in these schools, as are admissions standards in the more exclusive schools, and such schools may be less able or inclined to increase the number of places than less expensive, religiously-oriented schools. The experience in other countries suggests that institutional aid has tended to increase opportunities for those seeking a religiously-oriented private education as opposed to a secular one (School Finance Project, 1983). Several factors suggest that this might be the case in the United States as well. Church-related schools have the potential for financial assistance from the denomination or church body with which they are affiliated, which could help defray the large initial costs involved in starting a new school. In addition, there is a pre-existing organization that can provide support and around which a group can coalesce. Furthermore, costs and facilities tend to be more modest in religious schools, so that even without outside financial assistance, it may be easier to raise the necessary initial money. Finally, the closing of a large number of Catholic schools in the late 1960s and early 1970s may mean there is a supply of physical facilities available for expanding Catholic school enrollments.

The implications of a credit for households also vary according to who would switch and the nature of the credit. The beneficiaries of a credit will consist of two groups--

families of children currently in public schools but who would switch them to private schools under a credit, and families whose children are currently in private schools. The latter are disproportionately white and higher status, while the survey suggests the former might be more heavily black or Hispanic, and have lower family incomes. Therefore, the distribution of benefits among racial and income categories would depend upon the extent of switching to private schools that actually took place. The higher the number of children transferred to private schools as the result of a tuition tax credit, the higher the proportion of beneficiaries from groups now underrepresented in private schools might be.

In terms of the impact of characteristics of a credit, the survey findings are similar to previous ones with regard to the distribution effects of varying the level of credit. Higher credit levels are apt to provide a larger share of benefits to higher income and white families (as would percentage limits on the amount of tuition covered). The survey could not directly address the issue of the impact of refundability provisions, since the questions about a tax credit did not mention refundability. However, the responsiveness of low-income families to a low level of credit suggests that refundability might generate additional interest in switching to private schools. In addition, the survey suggests that an income ceiling would reduce costs more at higher levels of a credit, since high-income families are more inclined to switch at those levels.

Another possible consequence for individuals is the prospect that public school parents who would like to switch their children to private schools may be unable to do so. The potential for such unmet expectations may be greatest for less affluent families. They would be least able to afford even the reduced private school costs and might not be able to meet the admission requirements.

The extent to which a tuition tax credit would expand choice and access to private schools would be a function of the demand for and supply of private schools and the characteristics of the credit. If no child changes schools in response to a credit, then choice would not be expanded. Such an extreme case is unlikely, but a relatively small shift is possible if supply considerations predominate (i.e., supply is relatively inelastic and/or tuitions rise substantially). If supply were completely elastic, responses to the survey indicate the potential for large numbers of new children enrolling in private schools.

Furthermore, enrollments might increase most for some groups now underrepresented among private school students -- nonwhites and those from low-income families. This expansion of access could be most notable at low levels of a credit and with higher proportions of tuition eligible for coverage. In designing a tuition tax credit,

there must be some trade-off between the level of the credit and the proportion of tuition to be covered if the cost is to be kept at a reasonable level, since increases in both raise the cost of a tuition tax credit to the Federal government. The results of the survey suggest that for any given level of Federal funding, access and choice would be expanded most for low-income and minority families by increasing the proportion of tuition eligible at the expense of a lower level of credit.

REFERENCES

Augenblick, J. and McGuire, C.R. Tuition tax credits: Their impact on the states. Report No. F82-4. Denver: Education Commission of the States, 1982.

Bridge, R. G. and Blackman, J. A study of alternatives in American education: Family choice in schooling. Santa Monica: The Rand Corporation, 1978.

Campbell, D. and Stanley, J. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1966.

Catterall, J.S. Issues of equity: What kinds of families will benefit? IFG Policy Notes, 1982, 3(1).

Cogan, S. Determinants of parental choice in schooling: The Coquitlam experience. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, 1979.

Congressional Budget Office. An analysis of the revenue impact and distribution of benefits for S. 550 "The Tuition Tax Relief Act of 1981". In Hearings on S 550 before the Subcommittee on Taxation and Debt Management of the Committee on Finance, U.S. Senate 97th Congress, First Session, June 4, 1981, Part 2.

Congressional Budget Office. Tuition tax credits: Who would benefit and how much would they receive. Budget Issue Memorandum #6 for Fiscal Year 1982, Washington, D.C.

Converse, P. The nature of belief systems in mass publics. In D. Apter (Ed.), Ideology and discontent. New York: Free Press, 1966.

E.H. White and Company. Parental choice of education: A literature review of significant research. Prepared for the School Finance Project. Washington, D.C.: 1982.

Edwards, S. and Richardson, W. A survey of MCPS withdrawals to attend private school. Rockville, MD: Montgomery County Public Schools, 1981.

Frankel, J. How to conduct a telephone survey using random-digit-dialing. Washington, D.C.: Bureau of Social Science Research, 1980.

Frechtling, J.A. and Frankel, S.M. A survey of Montgomery County parents who transferred their children between public and private schools in 1980-81. Rockville, MD: Montgomery County Public Schools, June 1982.

Gallup, G. The 14th annual Gallup poll of the public's attitudes toward the public schools. Phi Delta Kappan, September 1982, 37-50.

Gemello, J.M. and Osman, J. Analysis of the choice of public and private education. Paper prepared for the Tuition Tax Credit Seminar sponsored by Institute for Research on Educational Finance and Governance, National Institute of Education and School Finance Project, Washington, D.C, October 1981.

Gratiot, M.H. Why parents choose nonpublic schools: Comparative attitudes and characteristics of public and private school consumers (Doctoral dissertation, Stanford University, 1979). Dissertation Abstracts International, 1980, 40, 4825-A.

Jacobs, M. Tuition tax credits for elementary and secondary education: Some new evidence on who would benefit. Journal of Education Finance, 1980, 5, 233-245.

Johnson, L. Preferences for educational alternatives expressed by parents of students in Minneapolis West Area Schools. Minneapolis: Minneapolis Public Schools, 1975.

Kamin, J. and Erickson, D. Parental choice of schooling in British Columbia: Preliminary findings. Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, April 1981.

Knoke, D. and Burke, P. Log-linear models. Beverly Hills, CA: Sage Publications, 1980.

Longanecker, D. Public cost of tuition tax credits. Paper prepared for Tuition Tax Credit Seminar, Washington, D.C., October 1981.

McAuley, W. and Nutty, C. Residential preferences and moving behavior: A family life analysis. Paper presented at the Annual Meeting of the American Sociological Association, 1979.

McGuire, C.K. Choice in elementary and secondary education. Working paper No. 34. Denver: Education Commission of the States, February 1981.

Nault, R. and Uchitelle, S. School choice in the public sector: A case study of parental decision making. In M. Manley and S. Casimir (Eds.), Family choice in schooling: Issues and dilemmas. Lexington, MA: Lexington Books, 1982.

Nie, N., Hull, C., Jenkins, J., Steinbrenner, K., and Bent, D. Statistical package for the social sciences, 2nd ed. New York: McGraw Hill, 1975.

Noell, J. and Myers, D. The demand for private schooling: A preliminary analysis. Paper presented at the Annual Meeting of the American Education Finance Association, Philadelphia, March 1982.

School Finance Project. Private elementary and secondary education. Congressionally Mandated Study of School Finance, Final Report, Volume 2. Washington, D.C.: U.S. Department of Education, July 1983.

School Finance Project. Study plan for the Congressionally mandated study of school finance: (Studies authorized by Section 1203 of the Education Amendments of 1978). Washington, D.C.: U.S. Department of Education, 1980.

Schuman, H. Attitudes vs. actions versus attitudes vs. attitudes. Public Opinion Quarterly, 1972, 36, 347-54.

Sonnenfeld, D. The educational marketplace: Toward a theory of family choice in schooling. Eugene: University of Oregon, Office of Scientific and Scholarly Research, 1973.

SPSS, Inc. SPSS-X users guide. New York: McGraw-Hill, 1983.

Uchitelle, S. and Nault, R. The school choice behavior of parents afforded public school options. Paper presented at the Annual Meeting of the American Educational Research Association, New York, 1977.

U.S. Bureau of the Census. School enrollment - social and economic characteristics of students: October 1977. Current Population Reports, Series P-20, No. 333. Washington, D.C. U.S. Government Printing Office, 1979.

U.S. Bureau of the Census. Private school enrollment, tuition, and enrollment trends: October 1979. Current Population Reports, Series P-23, No. 121. Washington, D.C.: U.S. Government Printing Office, 1982.

U.S. Congress. Conference report to accompany H.R. 15, Education Amendments of 1978, October 10, 1978.

U.S. Office of Management and Budget. Major themes and additional budget details, Fiscal Year 1984. Washington, D.C.: U.S. Government Printing Office, 1983.

Waksberg, J. Sampling methods for random-digit-dialing. Journal of the American Statistical Association, 1978, 73 (362).

Williams, D. with Huck, J., Ma, C., Monroe, S. and others. Bright flight. Newsweek, April 20, 1981, 66-72.

Williams, M. Earthquakes or tremors? Tax and expenditure limitations and school finance. In N. Cambron-McCabe and A. Odden (Eds.), The changing politics of school finance. Cambridge, MA.: Ballinger Publishing Company, 1982.

APPENDIX A

SAMPLING UNITS AND WEIGHTING

The sampling frame may be specified as parents in the continental United States who have a working telephone line and have a child in grades kindergarten through eleven in the 1981-1982 school year. The sampling unit in data collection was the parent; the parent answered questions regarding schooling decisions for up to two children. Analysis focused on the child-level response; each interview regarding a specific child constitutes one child-level record. In households where two children were specified, the demographic information for the family was attached to the parents' responses for each child individually and two child-level records complete with family background information were produced.[1]

In a true probability sample every unit in the sampling frame has a known probability of being selected into the sample. Weighting procedures were developed to adjust the survey data for multiple telephone numbers in the household and the number of eligible children in the household. Telephone weights were developed for households that had more than one telephone number and therefore had multiple chances of being selected. The weight assigned to each child-level record was the inverse of the number of telephone lines in the household. This weighting procedure affected households with more than one phone number in the house -- about five percent of the cases -- by reducing the impact of their responses. All children in families with one phone line had a telephone weight of one.

A second weighting procedure was employed to take into account the clustering effect of selecting up to two children in a family. For children in families with one or two eligible children, the probability of selection was equal and the factor was one. However, where there were three or more eligible children in the family, the weighting factor applied was a differential weight -- the ratio of the total number of eligible children in the household over the number of children actually selected. The effect of this factor, obviously, was to give greater weight to cases where other children could have been selected but were not due to the sampling limit of two children per respondent. Weighting yields a total child-level sample N of 2,009.

[1]Each child-level record includes attitudes and family background information given by one parent. The child's race and religion were assumed to be the same as those of the responding parent.

APPENDIX B

THE WAKSBERG METHOD OF RANDOM-DIGIT-TELEPHONE DIALING

The national sample generated for the household survey was selected according to the Waksberg method of random-digit dialing. This appendix uses excerpts from a BSSR publication (Frankel, 1980) to explain the Waksberg method. First, there is a brief discussion of random-digit dialing in general and then a detailed discussion of the Waksberg method.

Description of Random-Digit-Dialing

> Random-digit-dialing involves the use of a sample of telephone numbers generated completely at random by a computer. It thus differs from other methods in which the sample is drawn from phone directories. The first step in creating a random-digit-dialing sample is to determine which area codes and telephone exchanges serve the geographic area of interest in the survey. The computer then affixes to these area codes and exchanges unique four-digit combinations of phone numbers. The resulting numbers constitute the sample.
>
> The principle advantage of using this type of sample is that it is completely random and, therefore, free of bias. In other words, it gives everyone who lives in a household with access to a phone a chance of being chosen. It enables us to reach people whose telephone numbers are not listed as well as those who do have listed numbers since we are not relying on directory information, which is incomplete and always out-of-date in varying degrees.
>
> There are also disadvantages to using random-digit-dialing. First of all, we do miss those people who do not have telephones, but there are fewer and fewer of them as time passes. The more salient disadvantage is that the process requires that all possible numbers be generated - - not just those that are known to be working, residential, and so on. Consequently many of the numbers that are assigned are unusable and it takes considerable time, effort and, therefore, money to arrive at this determination.
>
> To deal with this concern, Joseph Waksberg, Vice President of Westat, Inc., developed a variant of random-digit-dialing, which reduces the number of non-productive calls which would otherwise be

made, e.g., to unassigned numbers, or to business establishments, when only residences are desired. The Waksberg procedure is based on the knowledge that subscribers are generally assigned phone numbers used mostly (if not exclusively) by businesses. Furthermore, unassigned (vacant, nonworking) telephone numbers are also likely to exist within largely unused groups rather than being distributed among many partially used groups.

Thus, as described in detail below, the Waksberg procedure involves generating numbers in clusters (called primary sampling units or PSUs), with numbers in each PSU having the same first eight digits (i.e., the area code, exchange and the next two digits) and a randomly affixed pair of final digits. A call is then attempted at the first phone number within the PSU. If a residential number is reached (assuming that the survey involves residences), that PSU is retained in the sample, and a set number of additional interviews are attempted within it. If, on the other hand, the first number is non-residential, non-working, etc., the entire PSU is rejected under the theory that most of the other numbers in it will also be non-residential, non-working, etc.

PSUs are selected at random until a set number of eligible phone numbers has been reached. The resulting sample is a probability cluster sample, with all clusters equal in size (i.e., having the same number of eligible phone numbers). (pp. 1-3)

The instructions given below indicate how the sample in the household survey was selected.

Step-By-Step Instructions for Drawing the Sample

1. Determine the number of clusters (PSUs) needed in the final sample and the number of interviews to be attempted in each. Both the number and size of the PSUs are a function of the desired overall sample size: SAMPLE SIZE = Number of Clusters (Size of Each Cluster). Waksberg provides some complicated formulas for determining the optimium sample size in his paper on random-digit-dialing (Waksberg, 1978). He has suggested, in conversation, that a reasonable cluster size is 20. Thus, for a sample of say, 200, ten clusters or PSUs would be needed for the final sample. Note that not all numbers in the cluster can be expected to be residences. Therefore, if we need 20 residences within each cluster, the cluster should be somewhat

larger than 20, to account for non-residential and other out-of-sample phones. Waksberg suggests that the numbers be generated in PSUs of 100. But only 20 of the 100 numbers in any one PSU would actually "make it into" the sample.

2. Once the number and size of the PSUs has been determined, obtain from AT&T a tape listing the area codes and the three-digit exchanges for the geographic area of interest in the survey. This tape is updated monthly, so that a current tape is always available.

3. Reorder the numbers on the tape randomly by computer. Select at random a set number (of area codes and three-digit exchanges) which is, perhaps, 10 times greater than the PSUs actually needed for the final sample. (This is done since not all the PSUs generated initially can be expected to be eligible for the sample.) Once that initial set of six-digit numbers has been chosen, a randomly generated two-digit number is affixed to each. Each of the eight-digit numbers so generated (i.e., the area code, the three-digit exchange, and the random pair of digits) will constitute a PSU. For each PSU, generate 100 numbers by adding randomly chosen pairs of numbers for the remaining two digits in the phone number.

4. Once the initial set of PSUs has been generated in the manner just described, use the first number in the PSU to determine if it will be retained in the sample. If the first number is non-residential or non-working, discard the PSU. If the first number is residential, retain the PSU in the sample. If additional PSUs are needed (i.e., there are not enough eligible ones from the set generated initially), generate them as described in step 3. Repeat the screening process until the desired number of eligible PSUs is attained.

5. For all retained PSUs, interviews are attempted at both the initial number and at a set number of additional residential phones, as determined earlier in step 1.

6. The process of screening PSUs to determine their residential status and of actually conducting the interviews may be done as either a one-step or two-step procedure. BSSR's experience suggests that these steps should in fact be performed separately. That is, PSUs should be generated and their eligibility determined by dialing the first number in each. Then, once interviewing begins,

the interviewers can be supplied only with PSUs known to be eligible for the sample. (pp. 3-5)

The following excerpt discusses weighting the sample in a random-digit-dialing survey.

ANALYZING DATA FROM A WARSBERG RANDOM-DIGIT-DIALING SAMPLE

In his article on random-digit-dialing, Waksberg (1978) notes two factors which must be taken into account before the data from a random-digit-dialing survey can be analyzed:

"(1) A telephone sample comprises a sample of households, not persons. If one person is interviewed in the household, a weight should be superimposed on the response; the weight is the number of persons in the household. If the interviews are to be performed for only certain classes of the population (e.g., all persons over 25 years of age) the weight is the number of such persons. To retain the features of a probability sample, the person in the household should be selected at random and not necessarily be the person who happened to answer the phone."

"(2) Households with more than one telephone number will have multiple chances of selection. To have an unbiased system, it is necessary to ask households if they have more than one telephone number. If they have two, a weight of one-half is needed, etc." (p. 1

APPENDIX C

SELECTION OF CHILDREN WITHIN ELIGIBLE HOUSEHOLDS

Substantive questions in the survey refer to a parent's schooling decisions for individual children in the family. Once eligibility of a respondent was determined, the parent was asked to list the age, sex, grade level and type of school for each child in grades K through 11. If there was only one child in the family, the parent answered questions regarding selection of schools for that child. However, when two or more children in the family were of school age, it was necessary to develop a procedure to select which children would be the focus of the parent's responses.

Interviewers used a list of 10 random numbers provided in each interview schedule. The random selection procedure involved comparing the "numbers" of the children listed by the parent with the unique list of numbers in random order printed on that particular interview schedule. The numbers of the children which appeared first among the random numbers (reading from left to right) were the ones to be selected. Thus, if there were four children (Child 1, Child 2, Child 3, Child 4) and the random number label read "8,5,4,7,2,9,3,6,1,10", Child 4 and Child 2 would be the two selected.

In order to maximize the number of private school children in the sample, the selection procedure was designed to give priority to children attending private schools. Thus, in a household with four eligible children with one child (Child 3) attending a private school, that child would be selected immediately, given the non-public school priority rule. Only children 1, 2, and 4 would be subject to the random selection process and one of them would be selected. Conversely, in a household with five eligible children, with Child 1 and Child 4 attending public schools, they would be eliminated from consideration because the priority would be given to children attending private schools. Only children 2, 3, and 5 would be eligible for random selection, and two of them would be chosen based on the list of random numbers.

To summarize the selection rules:

- IN HOUSEHOLDS WITH ONE OR TWO ELIGIBLE CHILDREN (REGARDLESS OF TYPE OF SCHOOL):

  SELECT ALL ELIGIBLE CHILDREN.

- HOUSEHOLDS WITH THREE OR MORE CHILDREN ATTENDING PUBLIC SCHOOLS:

  SELECT TWO USING THE LIST OF RANDOM NUMBERS ON THAT INTERVIEW SCHEDULE.

- HOUSEHOLDS WITH THREE OR MORE CHILDREN ATTENDING PRIVATE SCHOOLS:

  SELECT TWO USING THE LIST OF RANDOM NUMBERS.

- HOUSEHOLDS WITH THREE OR MORE CHILDREN AND CHILDREN IN BOTH PUBLIC AND PRIVATE SCHOOLS:

  IF ONE CHILD ATTENDS PRIVATE SCHOOL, CHOOSE THAT CHILD AND ONE OTHER SELECTED RANDOMLY.

  IF TWO CHILDREN ATTEND PRIVATE SCHOOL, SELECT THOSE TWO.

  IF THREE OR MORE CHILDREN ATTEND PRIVATE SCHOOL, SELECT TWO USING THE LIST OF RANDOM NUMBERS.

Because the child selection process was designed to oversample private school children, the sample is somewhat biased in that direction. No weighting procedures were used to correct for this bias. However, the bias is small, with 12 percent of sample children in private schools as opposed to 10 to 11 percent nationally. Furthermore, nearly all the analyses were conducted for private and public school students separately and the results were not used to derive national estimates for all children.

APPENDIX D

THE COMPOSITION OF THE REGIONS

NORTHEAST	NORTHCENTRAL	SOUTH	WEST
Connecticut	Illinois	Alabama	Alaska*
Maine	Indiana	Arkansas	Arizona*
Massachusetts	Iowa	Delaware*	California
New Hampshire	Kansas*	District of Columbia*	Colorado
New Jersey	Michigan	Florida	Hawaii*
New York	Minnesota	Georgia	Idaho*
Pennsylvania	Missouri	Kentucky	Montana
Rhode Island*	Nebraska	Louisiana	Nevada
Vermont*	North Dakota	Maryland	New Mexico*
	Ohio	Mississippi*	Oregon
	South Dakota*	North Carolina	Utah*
	Wisconsin	Okalahoma	Washington
		South Carolina	Wyoming*
		Tennessee	
		Texas	
		Virginia	
		West Virginia*	

*States in which no interviews were obtained.

Appendix E

RESPONSE RATES AND OTHER SAMPLING CONSIDERATIONS

This appendix discusses the following survey-related sampling and statistical issues:

- o Reponse rates
- o Treatment of missing data
- o Non-response to specific items
- o Sampling and non-sampling variance

Response Rates

Screening was completed on a total of 489 PSUs. Of these, 141 (28.8 percent) "passed" the screening (were assumed to be residential), while 348 (71.2 Percent) "failed" the screening (were either business or non-working numbers). During the course of the entire field procedure (screening and "working" through the PSUs), 12,268 telephone numbers were called, and more than 21,900 phone calls were placed, for an average of 1.8 calls per phone number.

There were 1,223 acceptable interviews obtained during the field effort. These completions came from 111 of the PSUs which passed the screening. The other PSUs were not used either because they were not needed to obtain the desired number of completions (24) or because of technical problems in the phone lines in the PSU such as crossed-wires (6). Any completions resulting from the partial working or screening of these PSUs were deleted from the total of "acceptable" interviews. The PSUs were worked in the random order listed by the computer program so that no bias could be introduced into the sample through the selection of the PSUs to be worked by the field staff. The extent of bias introduced by the elimination of the 6 PSUs where technical difficulties were encountered is unknown. The complete disposition of all the numbers called in the 111 fully "worked" PSUs is presented in Table E-1.

There are various ways by which the response rate could be calculated. One of the most straightforward is simply to compare the number of completed interviews to the number of households known to be eligible. The calculation (1223/1592) gives a response rate of 76.8 percent.

Missing Values

In response to each survey item, respondents who indicated that they "did not know" or "could not answer" were coded with an eight. A different code was assigned to questions that did not apply to a particular respondent because of pre-defined skipping patterns in the interview schedule. When the survey data were analyzed, these two codes were designated as "missing values." That is, computation of a particular measure of

Table E-1

Response Rates for the Household Survey

	Number	Percent of Total
Determined to be Eligible Residences	1592	14.3%
Completed	1223	(11.0)
Parent not available	128	(1.1)
Unable to interview because of language,[a] hearing, health problems	18	(0.2)
Refusal/break off	204	(1.8)
Other	19	(0.2)
Known Residence - Eligibility Undetermined	465	4.2%
Refusal	419	(3.8)
Language, hearing, health problems	46	(0.4)
Ineligible Residences	4258	38.4%
Non-working Numbers	2839	25.6%
Non-residential Numbers	846	7.6%
No Contact after 4 Calls	1102	9.9%
TOTAL	11,102	100.0%

[a]Interviews were conducted in Spanish and one interview was completed in Cantonese.

central tendency excluded those cases. The missing values were consistently excluded from the analysis of each variable. This is the reason why many of the tables indicate differing N's.

A few of the survey questions registered high levels of "don't know" responses. For example, all the parents with children in public schools were asked if there were non-public schools which served their child's grade level in the community. Approximately seven percent of all public school parents said they did not know. Non-response to the survey item on household income, a question which often elicits high levels of refusals, was about six percent.

Perhaps the most striking example of non-response to a particular survey question was to the items asking public school parents to estimate the annual tuition of Catholic, other religious and independent schools. The proportions who said they could not estimate costs at each type of school were 45 percent, 62 percent and 70 percent respectively.

Sampling Variance

Measures of tendency based on a survey sample are subject to two kinds of variation: random and nonrandom. The variation due to random error is estimated by calculation of a standard error. Estimation of the standard error may be calculated as described below:

$$CV = \sqrt{\frac{q}{Np}}$$

$$SE = CV \times p$$

where p = estimated percentage
$q = 1-p$
N = number in category
CV = coefficent of variation
SE = standard error

Calculation of a coefficient of variation (CV) and standard error (SE) assume random sampling and data which are approximately normally distributed.

The sample estimate and its standard error enable one to construct interval estimates that include the average result of all possible samples with a known probability. The following equation may be used to calculate an interval from two standard errors below the estimate (lower limit) to two standard errors above the estimate (upper limit) that would include the average result of 95 percent of all possible samples.

$p + (2 \times SE)$ = upper limit
$p - (2 \times SE)$ = lower limit

In reporting the survey results, summary measures based on a weighted population of less than 30 were not displayed. The unreliability of estimates based on such a small number of cases was usually supported by their relatively large standard errors. In addition, results were reported only where cross-tabulations displayed a Chi-square statistic significant at a 0.05 level.

Nonsampling error refers to variations in data due to nonrandom sources. While the researchers were careful to control sources of nonsampling error, some nonsampling bias may have been introduced. Likely sources of nonsampling error include:

- Semantics, or definitions of terms and phrases used in the survey questionnaire.
- Variations in the interviewers' interpretation of terms, questions, and instructions.
- Interviewer errors such as errors in coding or faulty memory.
- Processing errors in editing, coding, keypunching, computer programming, or other tabulation, calculating, and printing errors.

APPENDIX F

COMPOSITE MEASURES: NONPUBLIC SCHOOL PROCLIVITY AND EXPERIENCE

Two measures were developed for public school parents in order to obtain a more comprehensive indication of their prior interest in and experiences with private schools than could be obtained from individual questions in the survey. The proclivity variable attempted to measure the extent of the family's contact with private schools, whether it was in connection with this child, another child, or the parent's own childhood. The experience measure concerned the prior interest in or contact with private schools for the particular child. The nonpublic school experience measure was one component of the nonpublic school proclivity measure and it will be discussed first.

Nonpublic School Experience

Two questions were used to construct this measure. The first was whether the child had ever attended a private school. The second, asked if the response to first was negative, was whether the parent had "ever seriously consider(ed) sending this child to a nonpublic school." The coding for the experience variable was the following:

0. No experience
1. Parent had considered but did not send the child to a private school
2. The child had once attended a private school (in kindergarten or above)

The frequency distribution of the variable is given in Table F-1.

Table F-1

Nonpublic School Experience

	Percent
No experience	62.6 %
Considered a private school	19.8
Once attended a private school	17.6

(N=1,740)

Nonpublic School Proclivity

The nonpublic school proclivity measure was more complicated and was based on four factors. These were the parents' own educational experience, the nonpublic school experience measure, the types of schools attended by other children in the family, and any plans to transfer the child to a private school for the coming school year. The proclivity index could assume a value of zero to four, with zero indicating no proclivity toward private schools and four the greatest inclination in that direction. The score was

derived by summing the values of the four component variables, each of which was coded 0 or 1, with 1 indicating some proclivity toward private schools. Table F-2 indicates how the four component variables were coded.

Table F-2

Components of Nonpublic School Proclivity Measure

Variable	Coding
Parent's education	0. Only public school 1. Private school or both public and private
Nonpublic school experience	0. None 1. Considered or attended private school
Plans for next year	0. Remain in public school 1. Switch to private school
Other children in family	0. All in public school (or only one child) 1. At least one other child currently in private school

The frequency distribution for the nonpublic school proclivity measure is presented in Table F-3. Since so few respondents obtained scores of 2 or more on the composite measure, the scores of 3 to 4 were generally combined into a single category when the variable was used in analysis.

Table F-3

Nonpublic School Proclivity

Score	Percent
0 (No proclivity)	46.4 %
1	37.7
2	13.5
3	2.3
4 (Highest proclivity)	.1

(N=1,772)

Appendix G

INFORMATION ON LOGIT ANALYSES OF CURRENT CHOICE AND RESPONSE TO A TUITION TAX CREDIT

The dependent variable in logit models is not the proportion of cases in a particular category but the odds that a case will fall into that category. "An odds is the ratio between the frequency of being in one category and the frequency of not being in that category." (Knoke and Burke, 1980; p. 9) One way of examining the direct impact of the independent variables in a logit model on the dependent variable is to calculate the odds. This information is presented in Tables G-1 to 3 for Models 2-1 to 2-2 and Models 3-1 and 3-2.

TABLE G-1

Odds in Logit Analyses of Current Choice of School

Independent Variable	Odds of Child Being Enrolled in Public School	
	Model 2-1 (All Parents) (N=1669)	Model 2-2 ("Active Parents") (N=493)
Baseline odds	22.41 to 1	2.37 to 1
Parental education is high school graduate or less	1.57 to 1	1.91 to 1
Income is under $15,000	1.45 to 1	1.59 to 1
Parental school type is only public	1.36 to 1	---------
Religion is Protestant or none	1.45 to 1	1.47 to 1
Residence is outside metropolitan area	1.28 to 1	---------
Logistical factor is most important factor in current choice	4.87 to 1	---------
Cost is very important factor in current choice	----------	2.30 to 1
Religious instruction is not very important factor in current choice	----------	2.25 to 1

TABLE G-2

Odds in Logit Anelysis of Extent of Current Choice
for Public School Parents

Independent Variable	Odds of No Conscious Consideration of Schooling Options in Both Residentiel Choice and Enrollment in Child's Current School Model 2-3 (N=1455)
Baseline odds	1.63
Location is outside metropolitan area	1.44
Parental school type is only public	1.19
Income is under $15,000	1.34
Parental education is high school graduate or less	1.23

TABLE G-3

Odds in Logit Analyses of Preferences of Public School Parents under a $250 Tuition Tax Credit

Independent Variable	Odds of Child Being "Very" or "Somewhat Likely" To Be Transferred to a Private School	
	Model 3-1 Entire Sample (N=1426)	Model 3-2 Knowledgeable Parents (N=750)
Baseline odds	.48 to 1	.29 to 1
Income is under $15,000	1.46 to 1	1.48 to 1
Race is nonwhite	1.39 to 1	---------
Location is large or medium city	1.17 to 1	---------
Cost is factor in current choice	1.46 to 1	1.70 to 1
Satisfaction is dissatisfied	1.46 to 1	1.45 to 1
Extent of choice is yes	1.29 to 1	1.51 to 1
Private school proclivity is some	1.29 to 1	1.41 to 1